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Assessment of balance indicators for key fleet segments and review of national reports on Member States efforts to achieve balance between fleet capacity and fishing opportunities (STECF-16-18)

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Abstract

Commission Decision of 25 February 2016 setting up a Scientific, Technical and Economic Committee for Fisheries, C(2016) 1084, OJ C 74, 26.2.2016, p. 4–10. The Commission may consult the group on any matter relating to marine and fisheries biology, fishing gear technology, fisheries economics, fisheries governance, ecosystem effects of fisheries, aquaculture or similar disciplines. The Expert Working Group on Assessment of balance indicators for key fleet segments and review of national reports on Member States efforts to achieve balance between fleet capacity and fishing opportunities was held on 5th – 9th September 2015 in Barza, Italy. The report was reviewed by the STECF during its plenary meeting held on 24th – 28th October 2016.

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SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES (STECF)

Assessment of balance indicators for key fleet segments and review of national reports on Member States efforts to achieve balance between fleet capacity and fishing opportunities (STECF-16-18)

THIS REPORT WAS REVIEWED BY THE STECF IN PLENUM (PLEN-16-03), 24-28 OCTOBER 2016

Request to the STECF

- 1. Based on the data submitted by Member States under the 2016 DCF Economic data call and the most recent assessments and advice from relevant scientific bodies on stock status and their exploitation rates, compute values for the technical, economic and biological indicators specified in the European Commission Guidelines (COM 2014, 545 final)¹.**

JRC will provide tabulated values (in the same format as the MS indicator tables in the STECF 15-02 data table for all indicators as detailed in items i) to vi) below, covering all MS fleet segments wherever the necessary data are available.

Values for the following indicators to be provided as specified in the 2014 Balance Indicator Guidelines²:

- (i) Sustainable harvest indicator (SHI)
- (ii) Stocks at risk indicator (SAR)
- (iii) Return on investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)
- (iv) Ratio between current revenue and break-even revenue (CR/BER)
- (v) The inactive fleet indicators
- (vi) The vessel use indicator

For fleet segments for which the indicator values can be calculated, STECF is requested to present the trend over the last 5/6-year period and where relevant, to comment on any implications of such trends. STECF is also requested to comment on the reliability of data used in calculating the indicator values.

For fleet segments for which indicator values cannot be calculated, STECF is requested to explain why that is the case.

¹ COM (2014) 545 final. Communication from the Commission to the European Parliament and the Council. Guidelines for the analysis of the balance between fishing capacity and fishing opportunities according to Art 22 of Regulation (EU) No 1380/2013 of the European Parliament and the Council on the Common Fisheries Policy.

- 2. Review the fleet reports submitted by Member States under Article 22.2 / 22.3 of the CFP and assess whether the action plans under Article 22.4 of regulation (EU) 1380/2013 submitted by May 2016 with the Annual report on capacity corresponding to the situation in 2015 have effectively set out "the adjustment targets and tools to achieve a balance and clear time-frame for its implementation" in line with Article 22.4 of Regulation (EU) 1380/2013.**
- 3. STECF is requested to comment on the proposed measures in the new action plans under Article 22/4 of Regulation (EU) 1380/2013 submitted by Member States, together with their fleet reports on capacity corresponding to the situation in 2015, intended to address the imbalance as identified in any fleet segments additional to these identified as imbalanced in the fleet report of capacity for 2014. Comments shall focus on whether the measures in the new action plans can be considered sufficient to balance the additional, imbalanced fleets.**

STECF response

STECF reviewed the report of the EWG 16-09 and notes the considerable efforts made by Member States in preparing their national annual reports and the efforts of the Expert groups, the *ad hoc* contractors and the JRC to provide data, calculate indicators and to address the requests from the Commission.

STECF observations and conclusions

STECF notes the increasing frustration of the EWG participants because of the largely administrative nature of the exercise. Such frustration may lead to increasing difficulties to recruit experts for future meetings on this topic. Furthermore, the guidelines to Member States (COM 2014, 545 Final) may imply that the values of the indicators specified therein can identify whether a fleet is in or out of balance with its fishing opportunities. However, STECF has stated previously (STECF 15-02, STECF 15-05 (p. 9)) that this is not the case, as indicator values alone are not sufficient to draw such a conclusion.

STECF concludes that there is a need to revise the guidelines on balance indicators and suggests that DG MARE prepares a time for such a revision, so that in future, scientific expertise can be best employed to assist the Commission and Member States in meeting their obligations under Article 22 of the CFP (Regulation (EU) No 1380/2013).

TOR 1 – Assessment of Balance Indicators

- i. Compute indicator values** - done before the EWG by JRC, AER EWG and *ad hoc* contract. However, the SHI and SAR indicator values were revised several times, both during the preparatory meeting and the EWG. Such revisions were largely due to the complexity involved in allocating landings by fleet segments to the appropriate stock, dealing with missing data and the subjective criteria that define whether a stock is at risk.

- ii. **Present the trend over the last 5/6 year period** – partly done before the EWG, and partly done during EWG. Presented in section 4.7 and last column of Excel table containing indicator values.
- iii. **Where relevant, comment on any implications of such trends** – not done because the indicators themselves were not deemed sufficiently reliable and valid, as explained in the EWG report.
- iv. **Comment on the reliability of data used in calculating the indicator values** – done in section 4.2.2 and section 4.4 (and 4.4 sub-sections) of the EWG report.

A useful summary of the main findings is presented in the Executive Summary of the EWG report.

STECF supports the concerns about the validity, usefulness and coverage of indicator values which are elaborated at length in the report STECF-15-15.

From the information presented, MS can identify which fleet segments warrant further investigation and which may require action to restore an appropriate balance between fishing opportunity and fleet capacity. However, the Member States' assessments of balance are based on data from the year 2014. Hence, since that time, any changes in any of the variables that contribute to the indicator values (capacity, landings, economic variables, stock status and exploitation rate etc.) will not be accounted for and the indicator values may not reflect the current situation. In such cases, the action plans proposed may be redundant.

TOR 2 – Evaluation of Member State Action Plans

Assess whether MS action plans have effectively set out

- i. **the adjustment targets and tools to achieve a balance and**
- ii. **clear time-frame for its implementation**

General Conclusions

Most (16) Member States identified fleet segments which they consider to have been out of balance with their fishing opportunities in 2014, or were showing signs of having been out of balance, using biological, economic or technical indicators and/or supplementary information, and therefore requiring action plans according to Article 22 of the CFP (Regulation 1380/2013).

Five of the MS action plans assessed (Croatia, Cyprus, France, Ireland and the United Kingdom) were considered to be complete in terms of including required elements. Ten Member State action plans lacked at least one element of the required clear adjustment targets, tools or timeframes (Bulgaria, Denmark, Italy, Latvia, Lithuania, Malta, Portugal, Romania, Slovenia, Spain).

The German plan was not sufficiently well translated into English to evaluate.

Six Member States (Belgium, Estonia, Finland, Greece, The Netherlands and Sweden) concluded that no fleet segments clearly demonstrated imbalance and did not submit action plans.

Poland did not present a new plan because its plan from the previous year was in force.

Member States are more likely to be able to monitor and demonstrate progress towards the specified management targets if targets are quantitative rather than qualitative.

Several Member States incorporated actions relating to the objectives of the 2013 CFP, including the landing obligation. The integration of such policy targets into Member States' action plans demonstrates an integrated and long-term approach to addressing the balance between fishing capacity and opportunities.

TOR 3 – Comment on Proposed Measures

Comment on the proposed measures in new action plans for any additional fleet segments not included in the plans of the previous year – can the measures in the new action plans be considered sufficient to achieve balance between fleet capacity and fishing opportunity?

There was not sufficient information in MS action plans to enable the EWG to assess quantitatively whether such measures would be sufficient to redress fleet segment imbalances or would result in balance indicator values that fell on the "in balance" side of stated thresholds.

It is important to remember that the achievement of balance is a matter of judgement and therefore STECF cannot say whether the intended outcome of the plan would constitute an appropriate balance between fleet capacity and fishing opportunity.

It is also important to remember that balance of fleet capacity and fishing opportunity in a future year depends on the values of the two elements, and since the fishing opportunities of the fleet segments in future years are not known, this question can only be addressed based on assumptions about future fishing opportunities.

In order to assess whether MS action plans are likely to improve or restore balance to the fleet segments listed, there would need to be more detail in the action plans about what changes are anticipated and how those changes would be reflected in the balance indicator values.

STECF recommendations

STECF recommends that a template is provided for MS action plans to address imbalance between fishing capacity and fishing opportunity, as described in Article 22.4 of regulation (EU) 1380/2013. The template could provide headings in line with the regulation to ensure that MS could easily see that they have included the required elements such as targets, tools and clear time frames to achieve balance. Such a template would also make it easier to assess whether MS action plans are in line with requirements.

STECF recommends that a timeline is established to revise the balance indicators and associated guidelines taking into account proposals in previous EWG reports [STECF-15-02, STECF-15-15] and Annex 1 of the report by EWG 16-09.

References

Scientific, Technical and Economic Committee for Fisheries (STECF) – Assessment of balance indicators for key fleet segments and review of national reports on Member States efforts to achieve balance between fleet capacity and fishing opportunities

(STECF-15-02). 2015. Publications Office of the European Union, Luxembourg, EUR 27134 EN, JRC 94933, 147 pp.

Scientific, Technical and Economic Committee for Fisheries (STECF) – Assessment of balance indicators for key fleet segments and review of national reports on Member States efforts to achieve balance between fleet capacity and fishing opportunities (STECF-15-15). 2015. Publications Office of the European Union, Luxembourg, EUR 27555 EN, JRC 97991, 160 pp.

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REPORT TO THE STECF

EXPERT WORKING GROUP ON

Assessment of balance indicators for key fleet segments and review of national reports on Member States efforts to achieve balance between fleet capacity and fishing opportunities

(EWG-16-09)

Ispra, Italy, 5-9 September 2016

This report does not necessarily reflect the view of the STECF and the European Commission and in no way anticipates the Commission's future policy in this area

1 EXECUTIVE SUMMARY

OVERVIEW OF THE WORK UNDERTAKEN

TOR 1

A group of twelve experts, five biologists, six economists, and one statistician addressed TOR 1 during EWG 16-09. Values for indicators in Member State summary tables, for the period 2009-2014, divided by fishing area and individual fleet segments, were provided to experts on the first day of the meeting. The tables provided included (i) the actual values for the sustainable harvest, return on investment and return on fixed tangible assets, ratio between current revenues and break-even revenues, inactive fleet and vessel use indicators, (ii) comments on the fleet segment status for each indicator in the reference year 2014 according to the indicator guidelines (COM 2015, 545 final), and (iii) automatically generated comments on indicator trends in 2010-2014 to facilitate the interpretation of indicator values by experts. Comments on fleet segment status for the inactive vessel indicator are based on the reference year 2015 (and trends in 2010-2015), since the relevant data were available.

In order to deal with all the indicators calculated per fleet segments experts split into smaller sub-groups of biologists and economists. Experts did not assess fleet segments from their own Member State. Summary comments on the status of Member State fleet segments were compiled by the biologists and economists for each of the balance indicators. Indicators were interpreted according to the 2014 Balance Indicator Guidelines as requested by the TOR. Whilst interpreting and commenting on indicator trends experts encountered several issues related to the reliability of indicator calculations, and in particular the biological indicator values had to be revised several times; the final version of the biological indicators had to be assessed offline after the actual meeting.

When assessing technical aspects related to the calculation of indicators, experts took into account the proposals of the *ad hoc* balance indicator preparatory meeting, which took place in Ispra, Italy on the 26th-27th July 2016. EWG 16-09 did not focus additional effort on evaluating the quality and reliability of balance indicator calculations based on the requirements of the 2014 Balance Indicator Guidelines (COM (2014) 545 Final). Inconsistencies and problems relating to the calculation as well as the interpretation of indicator values highlighted in STECF reports 15-02 and 15-15 for biological, economic and technical indicators were however summarised, and an overview table highlighting whether each issue has been addressed, or what actions are still required was compiled by experts. In addition, the need to harmonise indicator calculation methods with the STECF Annual Economic Report (AER) Expert Working Group was specifically discussed by the group.

Due to the large number of issues and problems identified with regards to the Stocks at Risk (SAR) indicator, many of which are related to the current definition of the indicator in the 2014 Balance Indicator Guidelines (COM (2014) 545 Final), the Expert Group considered that it would be inappropriate to present and assess the trend of the SAR indicator over the last 5-year period as requested in the TORs. EWG 16-09 was thus unable to fully address TOR1.

TOR 2

A group of eleven experts, including five economists and four biologists, evaluated action plans submitted by Member States for fleet segments for which Member States identified structural overcapacity in line with Article 22.4 of Regulation (EU) 1380/2013 during EWG 16-09. At the start of EWG 16-09 experts discussed the protocol and criteria described in the STECF 15-15 report to assess Member State action plans. In line with the meeting Terms of Reference experts used the following criteria when reviewing action plans:

- (i) Indicators and fleet segments considered;
- (ii) Adjustment targets specified;
- (iii) Specification of tools to reach the adjustment targets;
- (iv) Specification of a clear implementation timeframe.

EWG 16-09 reviewed 17 action plans since some Member States did not present an action plan (Belgium, Estonia, Finland, Greece and the Netherlands), and some Member States did not submit an action plan in 2016 since they are still in the process of implementing a previously established (longer term) action plan (Cyprus, Latvia, Lithuania and Poland). Only minor adjustments were presented in the action plans of Italy and Denmark.

EWG 16-09 was able to fully address TOR 2.

TOR 3

A group of eleven experts, including five economists and four biologists, compared action plans submitted by Member States in 2015 (corresponding to the situation in 2014) and 2016 (corresponding to the situation in 2015) for fleet segments for which Member States identified structural overcapacity. Experts commented on the measures proposed by Member States to balance any additional fleet segments identified as being imbalanced. In the absence of such additional fleet segments, experts commented on any other significant changes in the action plans submitted by Member States. Any achievements under existing action plans documented by Member States were also commented on.

EWG 16-09 was able to fully address TOR 3.

SUMMARY OF THE MAIN FINDINGS

TOR 1

The balance indicator assessment undertaken by EWG 16-09 took into account a total of 737 fleet segments (including inactive segments) in EU Member States in 2014. Area 27 had a total of 353 active fleet segments, Area 37 a total of 209 active fleet segments, and OFR 56 active fleet segments. Overall, inactive vessels amounted to 22% of the fleet in number, 8.6% in GT and 13% in engine kW in 2014. In 2015, inactive vessels amounted to 23.8% of the fleet in number, 9.6% in GT and 13.7% in engine kW.

EWG 16-09 assessed balance indicator status in 2014 according to the thresholds and criteria in the 2014 Balance Indicator Guidelines as requested by the EWG TOR. EWG 16-09 wishes to stress that used in isolation, none of the indicators specified in such guidelines can definitively identify whether the capacity of a fleet segment is in or out of balance with its fishing opportunities. The values and weighting for all available indicators need to be taken into account when assessing whether the capacity of a fleet segment might, in the years represented, have been out of balance with fishing opportunities. To determine whether a given fleet segment is in or out of balance is a matter of judgement for fisheries managers depending on their priorities. The indicator values merely provide a means to identify which fleet segments might warrant further investigation.

Assessing balance indicator status in 2014 according to the thresholds and criteria in the 2014 Balance Indicator Guidelines revealed that overall a higher percentage of fleet segments were out of balance in Area 37 compared to Area 27. Assessments were only possible for a limited number of fleets operating in OFR due to poor or missing data for many fleet segments operating in OFR.

In Area 27 (Northeast Atlantic) 62% of fleet segments for which an assessment was possible for the reference year 2014 were out of balance according to the SHI. The proportion of out of balance fleet segments was lower according to the SAR indicator, but serious problems remain with regards to the SAR indicator methodology, so EWG 16-09 considered the SHI to be the more reliable biological indicator. Regarding the economic indicators, the proportions of fleet segment that were out of balance with their fishing opportunities were 28%, 30% and 29% according to the result for RoFTA, ROI and CR/BER respectively. According to the technical indicator (VUR) 49% of fleet segments for which the VUR was calculated were out of balance in 2014, which is less than the equivalent value for 2013 (as reported in STECF 15-15).

In Area 37 (Mediterranean and Black Sea) 80% of fleet segments for which an assessment was possible for the reference year 2014 were out of balance according to the SHI. The proportion of out of balance fleet segments was lower according to the SAR indicator, but serious problems remain with regards to the SAR indicator methodology, so EWG 16-09 considered the SHI to be the more reliable biological indicator. Regarding the economic indicators, the proportions of fleet segment that were out of balance with their fishing opportunities were 49%, 47% and 56% according to the result for RoFTA, ROI and CR/BER respectively. According to the technical indicator (VUR) 45% of fleet segments for which the VUR was calculated were out of balance in 2014, which is similar to the equivalent value for 2013 (as reported in STECF 15-15).

There were no clear signals in indicator trends in 2010-2014 for Areas 27 and 37. Improving trends in indicator values were found for the majority of fleet segments for which the ROI and/or RoFTA could be calculated, but worsening trends were evident for the CR/BER indicator. Analyses of technical indicators showed that indicator trends in 2010-2014 were improving for the inactive vessel indicator, but worsening for the VUR indicator. Improving trends in indicator values were found for the majority of fleet segments for which the SHI could be calculated. EWG 16-09 considered a trend analysis based on SAR indicator values to be too unreliable.

The 2014 Balance Indicator Guidelines issued to Member States presently are ambiguous in a number of places and the Commission could consider the adoption and

dissemination of new guidelines. The shortcomings identified should be addressed as soon as possible to improve the robustness and utility of the indicator values. EWG 16-09 reiterates previous STECF advice that a dedicated EWG meeting could be convened to assist in the revision of the guidelines.

Improvements were made to the calculation of the biological (SHI and SAR) indicators in 2016. The calculation of the SHI for the Mediterranean and Black Sea fleet segments was for the first time based on time-series of F/F_{MSY} ratios by stock compiled in a database of STECF stock assessment carried out from 2010 to 2015 by JRC experts. The calculation of the SAR indicator was further harmonised with the SHI calculations and for the first time carried out through a routine implemented in R. In 2014, 24 stocks assessed as being below the B_{lim} biological level (SAR criterion a), 36 stocks subject to an advice to close the fishery / prohibit direct fisheries / to reduce the fishery to the lowest possible level (SAR criterion b), 54 stocks subject to a fishing opportunities regulation which stipulates that the fish should be returned to the sea unharmed or that landings are prohibited, and 26 stocks on the IUCN 'red list' or listed by CITES were identified and passed the 10% SAR thresholds.

Despite improvements, experts identified numerous errors in the biological indicator values during and after the completion of EWG 16-09. The list of F/F_{MSY} ratios in the JRC Mediterranean stock assessment database did not include the results of assessments carried out in the framework of GFCM working groups. SHI calculations for the Mediterranean are thus currently imprecise and incomplete, especially in the case of fleet segments targeting stocks shared with non-EU fishing fleets. EWG 16-09 considers that the process currently used to calculate biological indicators needs to be revised; a more thorough peer review of the input data and parameters used to calculate biological indicators and close scrutiny of the results is required prior to the Balance EWG. The construction of a comprehensive database which contains all the necessary input data for the Mediterranean and Black Sea as well as Other Fishing Regions (OFR) is urgently required to facilitate this process.

An evaluation tool which may help prove to be a useful aid to the Commission and Member States in addressing the issue of balance/capacity in the future was developed by the expert responsible for the calculation of the SHI values. EWG 16-09 considers that the tool may prove to be a useful aid for scientists to check the indicator calculation process so it can be further improved in the future, and to Member States in selecting fleet segments for targeted management measures to address the issue of balance/capacity. A summary of the tool and web access details are presented.

TOR 2

STECF EWG 16-09 undertook its action plan evaluations against the 2014 Balance Indicator Guidelines (COM (2014) 545 FINAL). Expert judgements are based on comparing the submitted Member State action plans to the requirements of the 2014 Balance Indicator Guidelines. EWG 16-09 considers that the 2014 Balance Indicator Guidelines are in need of revision, and some of the indicators used to inform an assessment of the balance between fishing capacities and fishing opportunities should be replaced.

Member States identified fleet segments which they consider to be imbalanced, or showing potential signs of imbalance, using biological, economic or technical indicators

and/or supplementary information, and therefore requiring action plans. A diverse range of management measures and tools was presented by Member States in their action plans, including fleet measures, technical measures, economic measures and other measures. A number of Member State action plans lacked clear adjustment targets, tools or timeframes as required according by Article 22 of Regulation EU 1380/2013 on the Common Fisheries Policy.

Member States are more likely to be able to monitor and demonstrate progress towards the specified management targets if targets are quantitative rather than qualitative. EWG 16-09 notes that specific monitoring plans have been incorporated by some Member States as a means to observe the Member State's progress towards proposed management targets.

EWG 16-09 further notes that several Member States have incorporated actions relating to the objectives of the 2013 CFP, including the landing obligation. The integration of such policy targets into Member States' actions plans demonstrates an integrated and long-term approach to addressing the balance between fishing capacity and opportunities.

Several Member States consider that the balance indicators prescribed by the 2014 Balance Indicator Guidelines (COM 2014 545 final) do not accurately portray the balance between fishing capacity and fishing opportunities of their fleet segments, and stated that additional information on standard salary levels, fishing activity seasonality and considerations related to part-time fisheries should be taken into account when calculating / assessing indicators and drafting action plans. EWG 16-09 notes that additional guidelines for the preparation of action plans should be incorporated into future guidelines to Member States for the preparation of their annual fleet reports.

TOR 3

France, Italy, Malta, Portugal, Spain, and UK provided new action plans with their 2016 fleet reports. For those Member States, the Expert Group identified those fleet segments that were additional to those included in their 2015 action plans and commented on the proposed measures as requested. EWG 16-09 notes that the adjustment measures set out in the action plans of several Member States focussed primarily on improving fishing opportunities through a variety of management measures instead of adjusting fishing capacity. In all cases, the information presented was only sufficient to note the actions that Member States intend to implement and was not sufficient to quantitatively assess whether such measures would be sufficient to redress any imbalances between fishing capacity and fishing opportunities in the additional fleet segments identified in their action plans.

2 INTRODUCTION

Expert working group EWG-16-09 was convened under STECF to assess balance indicators for EU Member State fleet segments, review national reports on Member States efforts to achieve balance between fleet capacity and fishing opportunities, and assess action plans submitted for fleet segments where Member States identified structural overcapacity. EWG-16-09 was held in Barza di Ispra, Italy from the 5 – 9 September 2016.

Independently calculated balance indicators, based on DCF economic and transversal data and stock assessment information were provided to experts, and the evaluation of these balance indicators is reported here. In addition to evaluating the balance indicators per se, experts considered a number of recurring issues and caveats related to biological, economic, and technical indicators. Action plans submitted by Member States for fleet segments with identified structural overcapacity as identified by the Member States in their fleet capacity reports in line with Article 22.4 of Regulation (EU) 1380/2013 were evaluated, and the assessment is presented here.

2.1 Terms of Reference for EWG-16-09

The following terms of reference were agreed by DG Maritime Affairs and Fisheries (DG-MARE) and the chair of the expert working group:

Background

The Commission requests that an analysis of balance between fleet capacity and fishing opportunity be made using a standard approach across all EU fleet segments and based on DCF information. Where possible, evaluation should use data reference year 2009 to 2014.

Terms of Reference:

- 4. Based on the data submitted by Member States under the 2016 DCF Economic data call and the most recent assessments and advice from relevant scientific bodies on stock status and their exploitation rates, compute values for the technical, economic and biological indicators specified in the European Commission Guidelines (COM 2014, 545 final)².**

JRC will provide tabulated values (in the same format as the MS indicator tables in the STECF 15-02 data table for all indicators as detailed in items i) to vi) below, covering all MS fleet segments wherever the necessary data are available.

Values for the following indicators to be provided as specified in the 2014 Balance Indicator Guidelines²:

- (vii) Sustainable harvest indicator (SHI)
- (viii) Stocks at risk indicator (SAR)
- (ix) Return on investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)
- (x) Ratio between current revenue and break-even revenue (CR/BER)
- (xi) The inactive fleet indicators
- (xii) The vessel use indicator

² COM (2014) 545 final. Communication from the Commission to the European Parliament and the Council. Guidelines for the analysis of the balance between fishing capacity and fishing opportunities according to Art 22 of Regulation (EU) No 1380/2013 of the European Parliament and the Council on the Common Fisheries Policy.

For fleet segments for which the indicator values can be calculated, STECF is requested to present the trend over the last 5/6-year period and where relevant, to comment on any implications of such trends. STECF is also requested to comment on the reliability of data used in calculating the indicator values.

For fleet segments for which indicator values cannot be calculated, STECF is requested to explain why that is the case.

- 5. Review the fleet reports submitted by Member States under Article 22.2 / 22.3 of the CFP and assess whether the action plans under Article 22.4 of regulation (EU) 1380/2013 submitted by May 2016 with the Annual report on capacity corresponding to the situation in 2015 have effectively set out "the adjustment targets and tools to achieve a balance and clear time-frame for its implementation" in line with Article 22.4 of Regulation (EU) 1380/2013.**
- 6. STECF is requested to comment on the proposed measures in the new action plans under Article 22/4 of Regulation (EU) 1380/2013 submitted by Member States, together with their fleet reports on capacity corresponding to the situation in 2015, intended to address the imbalance as identified in any fleet segments additional to these identified as imbalanced in the fleet report of capacity for 2014. Comments shall focus on whether the measures in the new action plans can be considered sufficient to balance the additional, imbalanced fleets.**

3 GENERAL CONSIDERATIONS REGARDING THE ASSESSMENT OF 'BALANCE'

As far as possible the Expert group has explicitly addressed the terms of reference provided by the Commission which relate to the calculation and evaluation of balance indicators and the review of fleet reports from Member States and any associated action plans provided in accordance with the criteria specified in the 2014 Balance Indicator Guidelines to Member States (COM (2014) 545 FINAL) and Article 22 of regulation (EU) 1380/2013 to redress any imbalances between their fleet capacity and fishing opportunities.

In previous reports, the Expert Group has discussed at length and provided a detailed critique of the application and utility of the indicators and criteria specified in the 2014 Balance Indicator Guidelines (COM (2014) 545 FINAL) for assessing the balance between capacity and fishing opportunities. Furthermore, numerous suggestions for modification and improvement have also been provided in previous reports and all such criticisms and suggestions have been endorsed by the STECF. The Expert Group wishes to stress that all previous criticisms and suggestions remain valid and in particular draws the attention of the Commission to the following sections of previous reports:

- STECF report 15-02; sections 2.7, 2.8, 2.9;
- STECF report; 3.5.1, 3.6.1, 3.8, 3.9, 3.10, 3.11.

The comments and suggestions given in the above report sections are intended to provide advice on how the guidelines to Member States (COM (2014) 545 FINAL) might be modified at some future date and lead to a more appropriate suite of indicators to inform Member States on the balance between capacity and fishing opportunities. In this

context, the Expert Group wishes to draw attention to the concluding paragraph from STECF General Observations and Conclusions on the utility and appropriateness of balance indicators given in section 2 of STECF 15-15 which reads as follows:

"STECF acknowledges that there are no immediate plans by the Commission to revise the current suite of indicators or the Guidelines. Nevertheless, recognising that there may be a need to undertake such a revision at some future date, STECF suggests that it would be appropriate to commence investigating the properties and utility of alternative indicators at the earliest opportunity and well ahead of any decision on which indicators are to be used. The guidelines to Member States would then need to be revised accordingly and ideally include explicit instructions on precisely how indicator values should be calculated and how they should be interpreted in the context of the balance between capacity and fishing opportunities. STECF considers that the above work would best be undertaken by a dedicated Expert Working Group."

Furthermore, the Expert group wishes to stress that contrary to the criteria in the guidelines (COM (2014) 545 FINAL), the indicator values for all of the indicators being used to assess the balance between capacity and fishing opportunities merely inform on whether fleet segments should be scrutinised further to determine whether an action plan is warranted. The indicator values (either singly or in combination) cannot be considered reliable metrics to identify which fleet segments require an action plan.

In addition, the Expert Group also wishes to draw to the attention of the Commission the information in Annex I of this report which provides a summary of Indicator Issues and Suggested Actions arising from the preparatory meeting to this expert group (EWG 16-09).

4 TOR 1 - ASSESSMENT OF BALANCE INDICATORS

4.1 Background

All indicators provided and used in the STECF EWGs 16-09 were calculated according to the 2014 Balance Indicator Guidelines (COM (2014) 545 final)³. The Commission's 2014 Balance Indicator Guidelines seek to provide a common approach for estimating the balance over time between fishing capacity and fishing opportunities according to Art 22 of Regulation (EU) No 1380/2013 of the European Parliament and the Council on the Common Fisheries Policy.

4.2 Provision of Indicator Values

4.2.1 Indicator Calculation Process

JRC compiled a set of economic and technical indicators as part of STECF EWG 16-03 (Annual economic report 2016 of the EU fishing fleets – Part 1). During the Annual

³ Communication from the Commission to the European Parliament and the Council – Guidelines for the analysis of the balance between fishing capacity and fishing opportunities according to Art 22 of Regulation (EU) No 1380/2013 of the European Parliament and the Council on the Common Fisheries Policy COM(2014) 545 final.

Economic Report (AER) 2016⁴ (hereafter referred to as 'AER 2016') meetings indicators were quality checked, analysed and summarised for the period 2008-2014/2015 (2015 for the inactive vessel indicator only). The two biological indicators were derived through two *ad hoc* contracts.

An expert group was convened from the 26th-27th July at the JRC in Ispra, Italy, and tasked with providing agreed balance indicator values in accordance with the methodologies outlined in the 2014 Balance Indicator Guidelines. Experts present at the preparatory meeting for EWG 16-09 (hereafter 'EWG 16-09 Prep. Meeting') (i) reviewed the results of biological indicator calculations for the areas / fleet segments they were familiar with, and (ii) reviewed indicator issues, problems and caveats which had been flagged by STECF 15-02 / STECF 15-15, and proposed measures to address these wherever feasible. Participants at the EWG 16-09 Prep. Meeting decided to adopt the 30th June 2016 as a cut-off date for the inclusion of additional or updated data from Member States / advice on stock status from the relevant advisory bodies / IUCN and CITES listings.

A table prepared by the JRC containing all the balance indicators by Member State (MS) and fleet segment (supra-region⁵ + fishing technology + vessel length) was provided to EWG 16-09 on the first day of the meeting. Where available, data were provided for each year over the period 2008-2015. Despite the preparatory meeting several revisions were necessary for the biological indicators, and the final balance indicator table was provided to experts on the 4th day of the meeting.

Table 4.2.1.1 lists the set of balance indicators along with some additional information.

Table 4.2.1.1 - Indicators provided to experts at EWG 16-09

Indicator		Calculated by	Comments
Biological indicators	SHI Sustainable Harvest Indicator	Dr. Jerome Guitton	1. Calculated by landings value for 2009-2014 for every EU fleet segment for which data were available: <ul style="list-style-type: none"> For fleet segments operating in Area 27, the data source of stock assessment parameters was the ICES stock assessment database. For fleet segments operating in Area 37 the data source of stock assessment parameters was a database of STECF stock assessment results compiled by the JRC (will be accessible from January 2017 on: https://stecf.jrc.ec.europa.eu/dd/medbs). Updated information on stock assessments carried out at FAO/GFCM working groups was not available and could thus not be included in SHI calculations. Updated information on assessments of stocks targeted by EU fleets in Distant Waters and Outermost Regions was not available and could

⁴ Scientific, Technical and Economic Committee for Fisheries (STECF) – The 2016 Annual Economic Report on the EU Fishing Fleet (STECF-16-11). 2016. Publications Office of the European Union, Luxembourg, EUR XXXX EN, JRC XXX, 470 pp.

⁵ The DCF supra-regions are: (1) Area 27 = Baltic Sea, North Sea, Eastern Arctic, North Atlantic; (2) Area 37 = Mediterranean Sea and Black Sea; (3) OFR = Other Fishing Regions.

			<p>thus not be included in SHI calculations.</p> <ul style="list-style-type: none"> A time series of stock assessment parameters for stocks managed by ICCAT was compiled during the EWG 16-09 Prep. Meeting and included in SHI calculations. <p>2. Fleet segments were highlighted when less than 40% of the annual value of landings came from assessed stocks.</p>
	SAR Stocks at Risk Indicator	Dr. Armelle Jung Dr. Tommaso Russo	<p>1. Calculated for 2009-2014 for all fleet segments for which data were available.</p> <p>2. Dr. Jung selected the stocks at risk:</p> <ul style="list-style-type: none"> For fleet segments operating in Area 27, the most recent ICES Advice on fishing opportunities was accessed through the ICES website (up to the cut-off date 30/06/2016). For fleet segments operating in Area 37, the most recent GFCM SCSA / SAC and STECF stock assessment reports were taken into account. For fleet segments operating in other areas (OFR), STECF stock assessment reports and RFMO reports were considered. Additional information was taken from Council Regulations fixing annual fishing opportunities; from GFCM, ICCAT, IOTOC Resolutions; the CITES species list and the IUCN Red List for Actinopterygii and Elasmobranchii. <p>3. Dr. Russo implemented a routine in R to calculate the SAR indicator for MS fleet segments.</p>
Economic indicators	ROI or RoFTA The Return on Investment (ROI) or Return on Fixed Tangible Assets (RoFTA)	JRC	<p>1. Calculated using the same principle as STECF EWG 13-11; the target reference value to which the indicator value is compared is the 2014 risk-free interest rate. The most recent 5-year average (2010-2014) was also used, as stipulated in the 2014 Balance Indicator Guidelines.</p> <p>2. Calculated for years 2009-2014, the most recent year for which DCF economic data are available.</p>
	CR / BER Current revenue as proportion of break-even revenue	JRC	<p>1. Calculated for years 2009-2014, the most recent year for which DCF economic data are available.</p>
Technical/inactivity indicators	VUR Fleet segment utilisation ratio Average Days at Sea / Maximum Days at Sea	JRC	<p>1. Calculated for years 2009-2014 using the latest data submitted by MS during the 2016 DCF call for economic data.</p> <p>2. Member States (MS) had provided either maximum observed days at sea (DAS) for each fleet segment or maximum theoretical DAS.</p> <p>3. Due to several inconsistencies and/or relevant missing information in the data provided by some MS, the EWG also used the value of 220 maximum theoretical days at sea per fleet segment for all MS, as stipulated in the 2014 Balance Indicator Guidelines.</p>

	Inactive vessels per length category	JRC	1. Number and proportion of inactive vessels, in number, GT and kW for years 2009-2015 based on the latest data submitted by MS during the 2016 DCF call for economic data.
Data sources: 2016 DCF Fleet Economic Data Call; EUROSTAT; ICES online stock assessment database; JRC STECF stock assessment database; CITES species list; IUCN Red List.			

4.2.2 Data Source and Coverage

The data used to compile the various indicators were collected under the Data Collection Framework (DCF), cf. Council Regulation (European Commission (EC) No 199/2008 of 25th February 2008). Technical and economic balance indicators were calculated using data submitted under the 2016 DCF call for fleet economic scientific data issued by DG MARE in February 2016. The two biological indicators (SHI and SAR indicator) were calculated based on DCF transversal (landings) data submitted under the same data call. Additional information needed to calculate the biological indicators was obtained from other sources (see Table 4.2.1.1).

The 2016 fleet economic data call requested transversal and economic data covering years 2008 to 2015. Capacity data (GT, kW, no. of vessels) was requested up to and including 2015, while employment and economic parameters were requested up to and including 2014. Most effort and all landings data were requested up to and including 2015, as well as, income from landings (non-mandatory) to allow for economic performance projections to be estimated for 2015. Landings and effort data for fleet segments operating in the Mediterranean & Black Sea region (i.e. Area 37) were requested at the GCFM-GSA level by the 2016 economic data call. This level of aggregation was requested to correctly allocate landings to the relevant stocks when calculating the biological balance indicators (see STECF 15-02 / 15-15 reports).

In terms of the completeness of the Member States data submissions, the AER 2016 report remarks that most countries submitted the majority of the parameters requested under the call. In many cases missing data relates to fleet segments with low vessel numbers. As 'maximum days at sea by fleet segment' is not a DCF parameter, it is requested and submitted through the data call on a voluntary basis.

EWG 16-09 further noted that data on the number of inactive vessels by length group was not provided for the years 2014/2015 by Cyprus, for 2015 by France, Denmark and Greece, and information on inactive vessels was not provided at the requested aggregation level 'supra-region' by Germany, Denmark and Spain. The lack of data on supra-region is particularly problematic for Spain since the Spanish fleet is active in all 3 supra-regions.

Table 4.2.2.1 Number of inactive vessels by length group for each Member State in 2014 and 2015

Supra-region	Vessel length	year	BEL	BGR	CYP	DEU	DNK	ESP	EST	FIN	FRA	GBR	GRC	HRV	IRL	ITA	LTU	LVA	MLT	NLD	POL	PRT	ROU	SVN	SWE	
AREA27	VL0010	2014								1270	174	1835			614		34	87		128	20	3718			246	8126
AREA27	VL1012	2014								105	20	69			98		4			11	17	62			30	416
AREA27	VL1218	2014							1	5	4	36			21		1			16	4	108			12	208
AREA27	VL1824	2014									2	11			10		1			14	1	33				72
AREA27	VL2440	2014	4								1	29			9		4			19		33				99
AREA27	VL40XX	2014									2	7					2			12		7				30
AREA 27			4	0	0	0	0	0	1	1380	203	1987	0	0	752	0	46	87	0	200	42	3961	0	0	288	8951
AREA37	VL0006	2014		307							85		337	754		360			174				6	46		2069
AREA37	VL0612	2014		583							139		751	732		595			138				28	31		2997
AREA37	VL1218	2014		9							2		67	107		121			10				1	1		318
AREA37	VL1824	2014		2							5			33		29			8					1		78
AREA37	VL2440	2014									3			43		15			6							67
AREA37	VL40XX	2014									4					4										8
AREA37			0	901	0	0	0	0	0	0	238	0	1155	1669	0	1124	0	0	336	0	0	0	35	79	0	5537
OFR	VL0010	2014									792											331				1123
OFR	VL1012	2014									60											3				63
OFR	VL1218	2014									3											5				8
OFR	VL1824	2014									14											6				20
OFR	VL2440	2014									1											5				6
OFR	VL40XX	2014														10										10
OFR			0	0	0	0	0	0	0	0	870	0	0	0	0	10	0	0	0	0	0	350	0	0	0	1230
NONE	VL0010	2014				372	503	1035																		1910
NONE	VL1012	2014				7	2	42																		51
NONE	VL1218	2014				10	7	67																		84
NONE	VL1824	2014				7	5	21																		33
NONE	VL2440	2014				1	1	51																		53
NONE	VL40XX	2014						12																		12
NONE			0	0	0	397	518	1228	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2143
Total			4	901	0	397	518	1228	1	1380	1311	1987	1155	1669	752	1134	46	87	336	200	42	4311	35	79	288	17861

Supra-region	Vessel length	year	BEL	BGR	CYP	DEU	DNK	ESP	EST	FIN	FRA	GBR	GRC	HRV	IRL	ITA	LTU	LVA	MLT	NLD	POL	PRT	ROU	SVN	SWE	
AREA27	VL0010	2015								1110	1842				565		35	84		131	33	3732			242	7774
AREA27	VL1012	2015								102		83			87		3			10	25	67			29	406
AREA27	VL1218	2015							2	2		44			15		1			19	7	109			13	212
AREA27	VL1824	2015									12				7		1			11	1	31				63
AREA27	VL2440	2015	6									29			7		4			20	2	40				108
AREA27	VL40XX	2015									7									12		10				29
AREA 27			6	0	0	0	0	0	2	1214	0	2017	0	0	681	0	44	84	0	203	68	3989	0	0	284	8592
AREA37	VL0006	2015		278										1782		345			132				4	46		2587
AREA37	VL0612	2015		487										3063		589			101				20	31		4291
AREA37	VL1218	2015		7										105		118			9					3		242
AREA37	VL1824	2015		3										35		28			5					1		72
AREA37	VL2440	2015												43		15			6							64
AREA37	VL40XX	2015														4										4
AREA37			0	775	0	0	0	0	0	0	0	0	0	5028	0	1098	0	0	253	0	0	0	24	81	0	7259
OFR	VL0010	2015																				326				326
OFR	VL1012	2015																				3				3
OFR	VL1218	2015																				5				5
OFR	VL1824	2015																				6				6
OFR	VL2440	2015																				5				5
OFR			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	345	0	0	0	345
NONE	VL0010	2015				378		1031																		1409
NONE	VL1012	2015				8		35																		43
NONE	VL1218	2015				10		53																		63
NONE	VL1824	2015				7		15																		22
NONE	VL2440	2015				1		42																		43
NONE	VL40XX	2015						9																		9
NONE			0	0	0	404	0	1185	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1589
Total			6	775	0	404	0	1185	2	1214	0	2017	0	5028	681	1098	44	84	253	203	68	4334	24	81	284	17786

In terms of data quality, inevitably some 'abnormal' or unexpected estimates for various indicators were detected by JRC or the AER experts, and in many cases were rectified by the Member States. However, some coverage and quality issues remained outstanding. Some general data issues highlighted in the AER 2016 include, but are not limited to, the following:

- Substantial amounts of data are missing for Greece, in particular on effort, landings and income.

- As a new Member State, Croatia provides data from 2012 onwards.
- This year's submission from France and Spain improved but continue to be incomplete, in particular for the years 2008-2010.
- Some issues remain for the Irish under 10 m vessels.
- Due to the reduced number of vessels and/or enterprises, many Baltic States do not deliver sensitive data on their distant-water fleets, making coverage at the EU and regional levels incomplete.

4.2.3 Fleet Segment Coverage

Some of the indicators could not be calculated for all fleet segments due to lack of data or, in some cases, due to clustering segments together, which is generally done in order to protect commercial confidentiality. Moreover, fleet segments necessarily include only vessels which have been active, since it is their activity that allocates them to a fleet segment (through the fishing technology). Inactive vessels are counted and categorised at national and where applicable / where the necessary data were available at regional level,⁶ according to the length of the vessel.

Table 4.2.3.1 shows indicator coverage per MS in terms of the proportion of MS landed value that is made by fleet segments which have an indicator value in 2014, i.e. for which there is indicator coverage in 2014. SHI coverage is presented for (i) SHI values that were calculated for all stocks with assessment data, even if the proportion of landings value of the assessed stocks made up less than 40% of the total landings value of the fleet segment (in such cases, the indicator is considered as unrepresentative/unreliable), and (ii) SHI values when only taking into account fleet segments for which the proportion of landings value of the assessed stocks made up more than 40% of the total landings value of the fleet segment. For the SAR indicator, all fleet segments with corresponding landings data were screened for stocks falling under the definition of stocks at risk; all of the landings (in weight) data provided by MS were thus considered in the SAR analysis.

Table 4.2.3.1 - Coverage of each balance indicator in terms of landed value submitted by MS for the reference year 2014. ND = No data or insufficient data available for the calculation of the indicator in question. SHI = coverage of fleet segments for which SHI could be calculated; SHI 40%+ = coverage of fleet segments where proportion of landings value of the assessed stocks made up more than 40% of the total landings value of the fleet segment.

MS	VUR	VUR220*	SAR*	SHI	SHI >40%	CRBER	RoFTA	ROI	Net profit margin
BEL	100%	100%	100%	100%	97%	100%	100%	0%	100%
BGR	0%	100%	100%	100%	35%	100%	100%	0%	100%
CYP	0%	100%	100%	42%	0%	100%	100%	0%	100%
DEU	100%	100%	100%	100%	59%	100%	100%	0%	100%
DNK	0%	100%	100%	97%	94%	100%	100%	100%	100%
ESP	100%	100%	100%	79%	21%	98%	98%	80%	98%

⁶ Appendix III of Commission Decision 2010/93/EU specifies the data collection requirements for fleet segmentation by region.

EST	65%	100%	100%	98%	64%	100%	100%	100%	100%
FIN	100%	100%	100%	100%	74%	100%	100%	0%	100%
FRA	89%	89%	100%	98%	26%	66%	66%	0%	66%
GBR	0%	100%	100%	98%	73%	100%	100%	100%	100%
GRC	0%	100%	100%	30%	0%	100%	100%	0%	100%
HRV	100%	100%	100%	100%	70%	100%	100%	0%	100%
IRL	95%	95%	100%	98%	90%	95%	95%	0%	95%
ITA	100%	100%	100%	98%	10%	100%	100%	0%	100%
LTU	99%	100%	100%	100%	5%	100%	100%	0%	100%
LVA	100%	100%	100%	88%	0%	100%	100%	0%	100%
MLT	100%	100%	100%	98%	13%	100%	100%	67%	100%
NLD	100%	100%	100%	100%	79%	100%	100%	100%	100%
POL	100%	100%	100%	100%	56%	100%	100%	0%	100%
PRT	56%	100%	100%	93%	16%	100%	100%	0%	100%
ROU	64%	64%	100%	100%	25%	64%	64%	64%	64%
SVN	100%	100%	100%	100%	20%	100%	100%	0%	100%
SWE	100%	100%	100%	100%	99%	100%	100%	0%	100%

It is important to note that full coverage in the table above does not necessarily mean that the entire MS fleet is covered. It simply means that all the landings data that was submitted was covered. However, for confidentiality reasons, some MS may not provide landings data for specific fleet segments in cases where the data are considered sensitive and clustering of fleet segments may be insufficient to overcome breaching confidentiality rules. In some cases, only landings in weight are provided without the corresponding landed values for all active fleet segments reported by a MS. For example, Germany has full coverage for SHI. However, landings in value are not provided for its large pelagic trawler fleet since practically the entire segment is owned by one parent company; for confidentiality reasons the data cannot be published. As data on this variable are not submitted they are not considered in the overall assessment of coverage. Indicator coverage is thus only relative to the data provided (value of landing), and should be considered together with the number of fleet segments and/or vessels.

In other cases, fleet segments are omitted entirely, i.e. not even capacity data are reported by MS. For instance, in the 2016 data call, Estonia, which appears to have full coverage for most of the indicators, did not provide any data on their distant water fleet (DTS VL40XX) since there were only two owners operating with 4 vessels in this segment in 2014. In such cases there is no way of knowing what the actual coverage would be because certain fleet segments are completely missing from the submitted DCF data. Information on active fleet segments in 2014 with missing landings in value that can be identified is presented in Table 4.2.3.2.

Table 4.2.3.2 - Summary table showing for each Member State the number of fleet segments for which data on landings in value was available in 2014, the number of active fleet segments, and the active fleet segments in 2014 with missing landing values.

MS	Number of active fleet segments in 2014	Number of aggregated fleet segments in 2014	Data on Value of landings	Format of data provision for Value of landings by MS in 2014	Landings data coverage	Active fleet segments in 2014 with missing landings in value*
Belgium	11	4	4	Aggregate fleet segment	Available for all aggregated fleet segments	
Bulgaria	23	16	23	Fleet segment	Available for all fleet segments	
Croatia	35	23	34	Fleet segment	Missing for 1 fleet segment	HRV A37 PMP VL2440
Cyprus	6	6	6	Fleet segment	Available for all fleet segments	
Denmark	19	19	19	Fleet segment	Available for all fleet segments	
Estonia	8	4	8	Fleet segment	Available for all fleet segments	
Finland	10	5	5	Aggregate fleet segment	Available for all aggregated fleet segments	
France	97	67	90	Fleet segment	Missing for 7 fleet segments	FRA A27 PGO VL1218 FRA A37 DRB VL0006 FRA A37 MGO VL0006 FRA A37 PS VL2440 FRA A37 PS VL40XX FRA OFR DFN VL1012 FRA OFR PS VL0010
Germany	19	14	13	Aggregate fleet segment	Missing for 1 aggregated fleet segment	DEU A27 TM VL40XX °
Greece	15	14	15	Fleet segment	Available for all fleet segments	
Ireland	32	22	31	Fleet segment	Missing for 1 fleet segment	IRL A27 TM VL1012
Italy	32	23	23	Aggregate fleet segment	Available for all aggregated fleet segments	
Latvia	3	3	3	Fleet segment	Available for all fleet segments	
Lithuania	9	5	9	Fleet segment	Available for all fleet segments	
Malta	20	20	20	Fleet segment	Available for all fleet segments	
Netherlands	28	14	14	Aggregate fleet segment	Available for all aggregated fleet segments	
Poland	16	9	7	Aggregate fleet segment	Missing for 2 fleet segments	POL A27 DTS VL40XX POL OFR TM40XX
Portugal	54	52	52	Aggregate fleet segment	Available for all aggregated fleet segments	
Romania	5	4	5	Fleet segment	Available for all fleet segments	
Slovenia	14	4	4	Aggregate fleet segment	Available for all aggregated fleet segments	
Spain	89	60	89	Fleet segment	Available for all fleet segments	
Sweden	28	7	26	Fleet segment	Missing for 2 fleet segments	SWE A27 MGP VL2440 SWE A27 PGO VL0010
United Kingdom	45	30	45	Fleet segment	Available for all fleet segments	

* It is possible that landings data for 1 or more of these fleet segments are contained within a corresponding clustered fleet segment

4.2.4 Biological Indicator Visualisation Tool

The expert responsible for the calculation of the SHI values (J. Guitton), has developed an interactive tool which allows users to visualise the input data as well as the results of the biological indicator calculations. The tool is available at:

Link: http://halieut.agrocampus-ouest.fr/sirs_cstep_2016/

Login: atlas

Password: atlas

The input data and balance indicator calculation results can be viewed thematically at fleet segment, country and supra-region level. For example, input data such as landings data can be visualised by weight or value; graphs showing the list of stocks used in calculations and the corresponding timeseries of F/F_{MSY} used for each stock can be displayed; indicator results can be viewed individually or as a combination of a number of indicators displayed on the same graph. The online tool includes updated values of (i) biological indicators specified in the 2014 Balance Indicator Guidelines, and (ii) the alternative indicators suggested in STECF reports 15-02 and 15-15.

EWG 16-09 considers that the tool may prove to be a useful aid for scientists to check the indicator calculation process so it can be further improved in the future, and to Member States in selecting fleet segments for targeted management measures to address the issue of balance/capacity. The figures below show some examples of the visual tools available online; an example of the potential utility of the evaluation tool is explained in section 3.8 of STECF report 15-15.

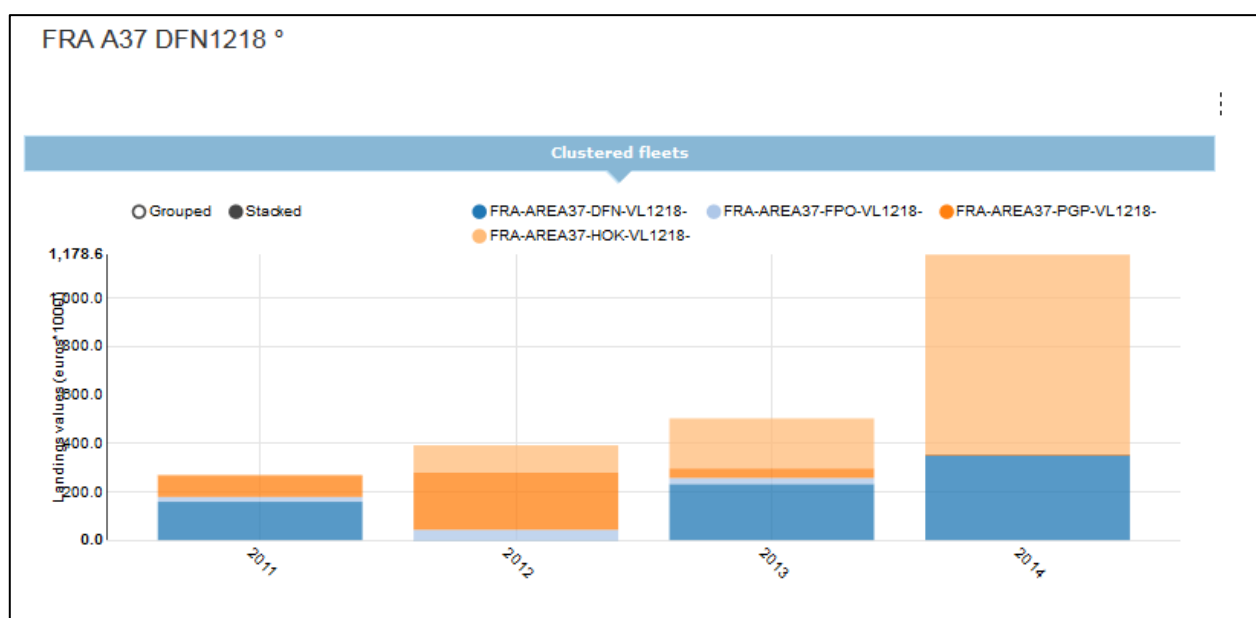


Figure 4.2.4.1. Comparison of fleet aggregation used in the calculation of economic indicators, where fleet segment clusters are used for confidentiality reasons, and biological indicators, where the lowest aggregation level possible is used. In the above example economic indicators would be available for the fleet segment FRA 137 DFN1218°; depending on the reference year biological indicators would be available for the corresponding segments FRA-AREA37-DFN-VL1218-, FRA-AREA37-HOK-VL1218-, FRA-AREA37-FPO-VL1218-, FRA-AREA37-PGP-VL1218-. This tool allows for a visual check of clustering consistency by Member States between years.

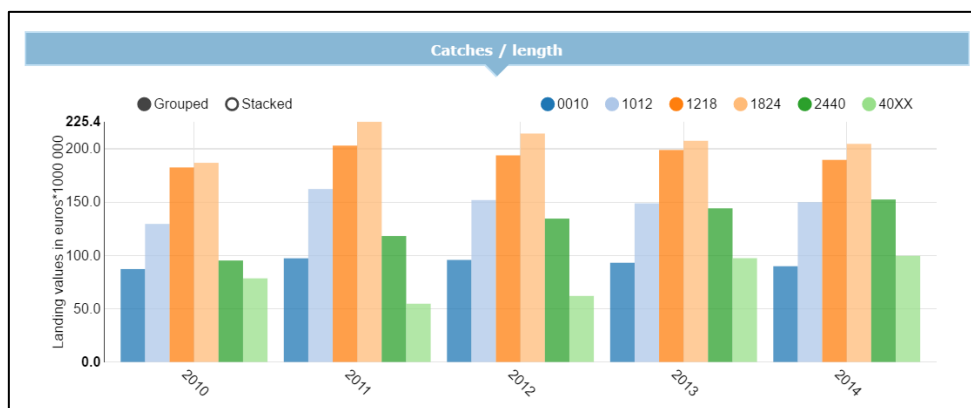


Figure 4.2.4.2. Total landings values in Euros (x 1 000 000) by fleet segment length (0-10 m; 10-12 m; 12-18 m; 18-24 m; 24 – 40 m; >40 m length overall) for the French fleet in 2010 to 2014, as used in the calculation of balance indicators.

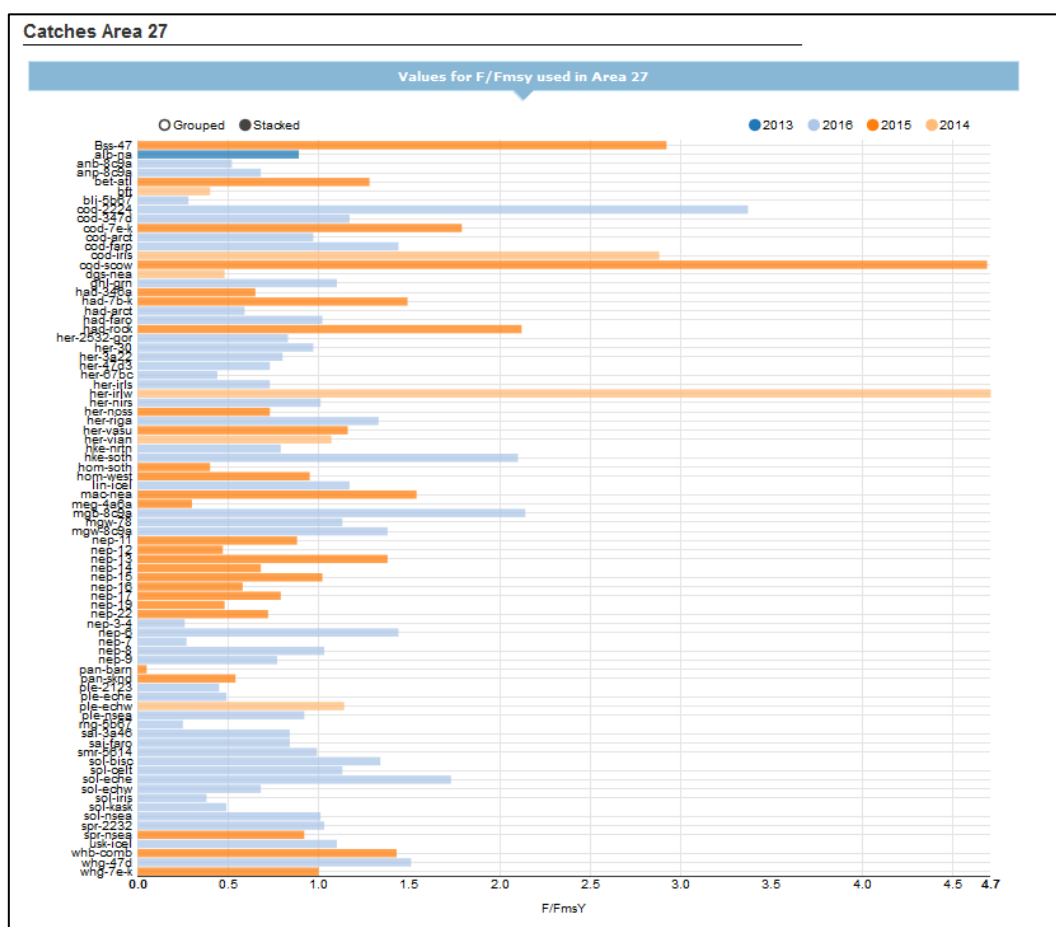


Figure 4.2.4.3. Most recent F/F_{MSY} values for stocks and corresponding landing values in Area 27 used in the calculation of the SHI indicator. Assessments made available in the reporting years 2013-2016 were used.

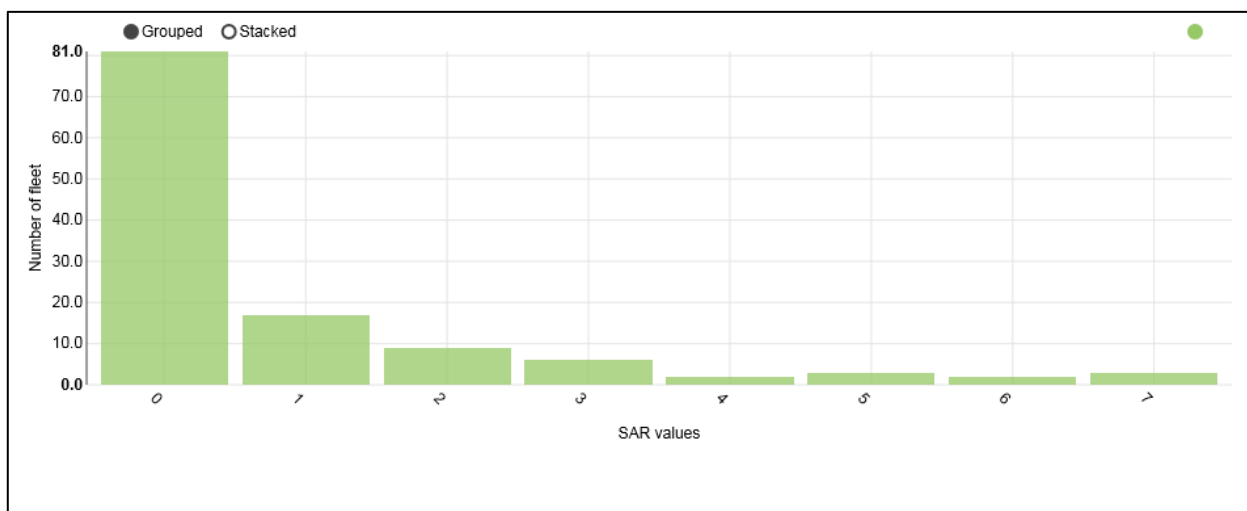


Figure 4.2.4.4. Stocks at Risk Indicator (SAR) calculation results – indicator values at Member State level. Example shows the number of French fleet in the reference year 2014, for which the SAR value is 0 (n=81), 1 (n = 17) etc.

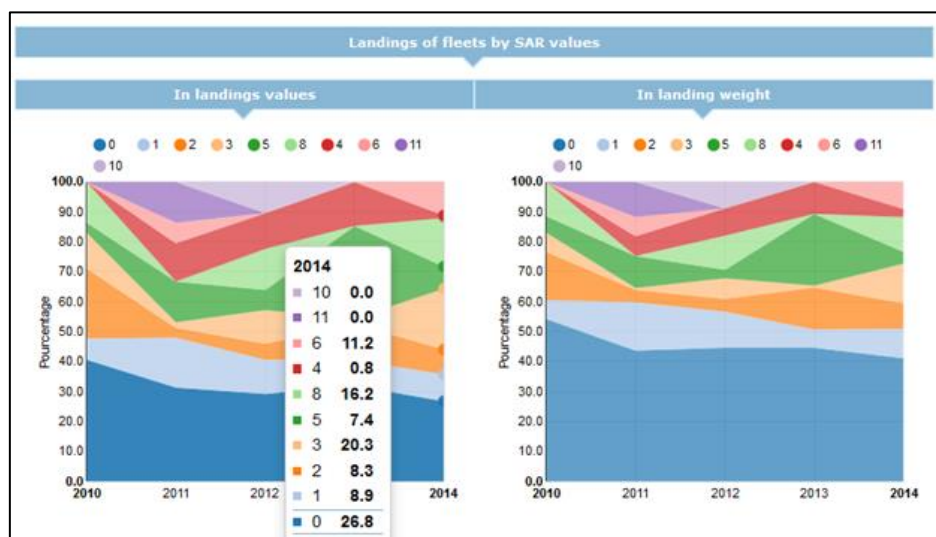


Figure 4.2.4.5. Stocks at Risk Indicator (SAR) calculation results at Member State level – proportion of landings made by fleet segments landing 0 to 11 stocks at risk. For example, in 2014 fleets which landed 0 stocks at risk accounted for 26.8% of landings values of the French fleet.

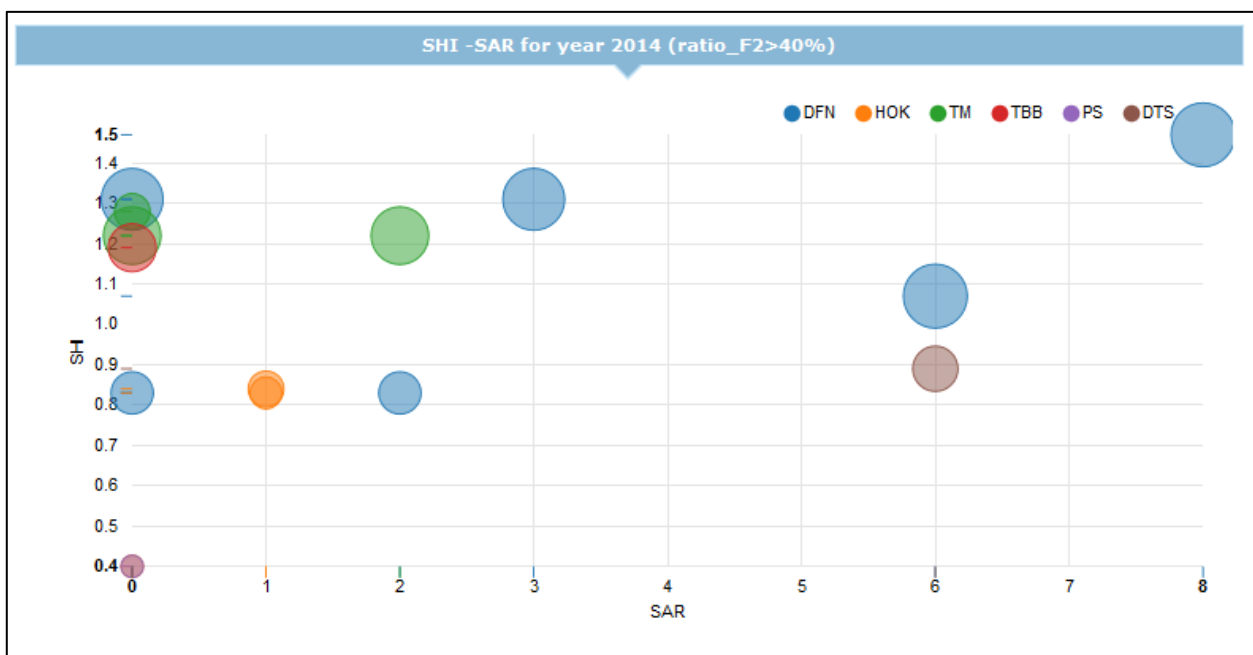


Figure 4.2.4.6. Results of Sustainable Harvest Indicator (SHI) and Stocks at Risk (SAR) indicator calculation results for the French fleet, reference year 2014. Only SHI calculation results where more than 40% of the annual value of landings came from assessed stock (ratio_F2>40%) are shown. Users can choose to restrict the display to a particular fishing technique by clicking on the relevant symbol in the legend.

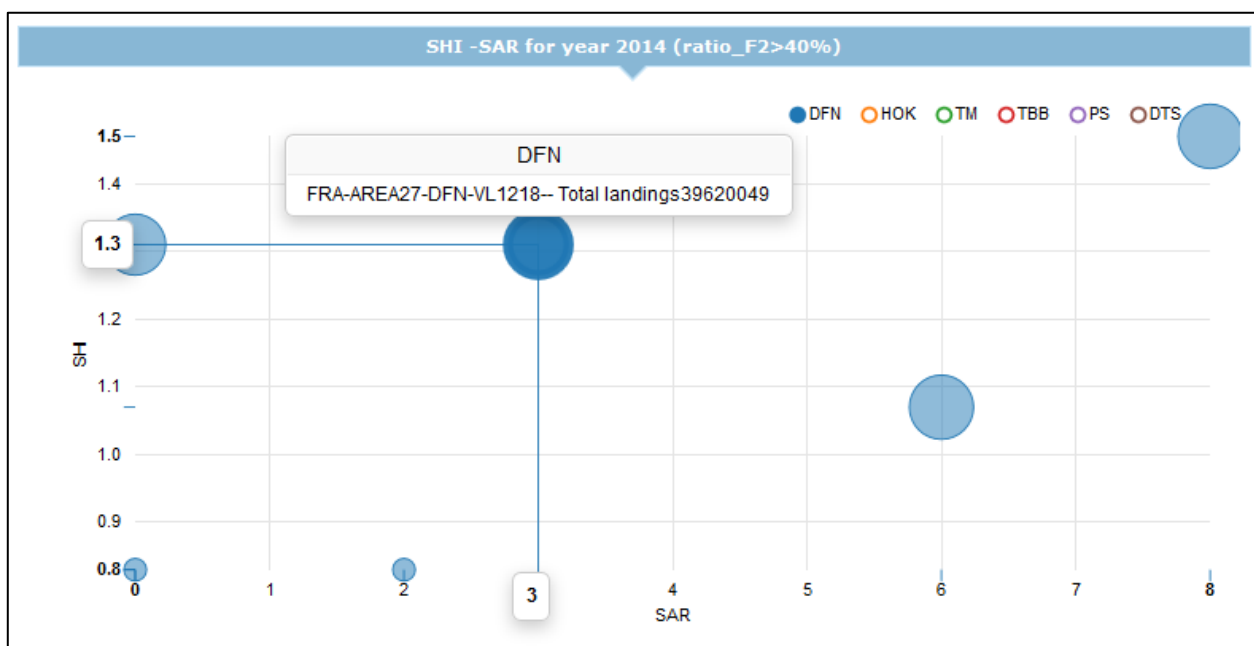


Figure 4.2.4.7. Results of Sustainable Harvest Indicator (SHI) and Stocks at Risk (SAR) indicator calculation results for the French DFN (Drift and/or fixed netters fleet), reference year 2014. Only SHI calculation results where more than 40% of the annual value of landings came from assessed stock (ratio_F2>40%) are shown. Users can select a particular bubble to access information for the relevant fleet segment.

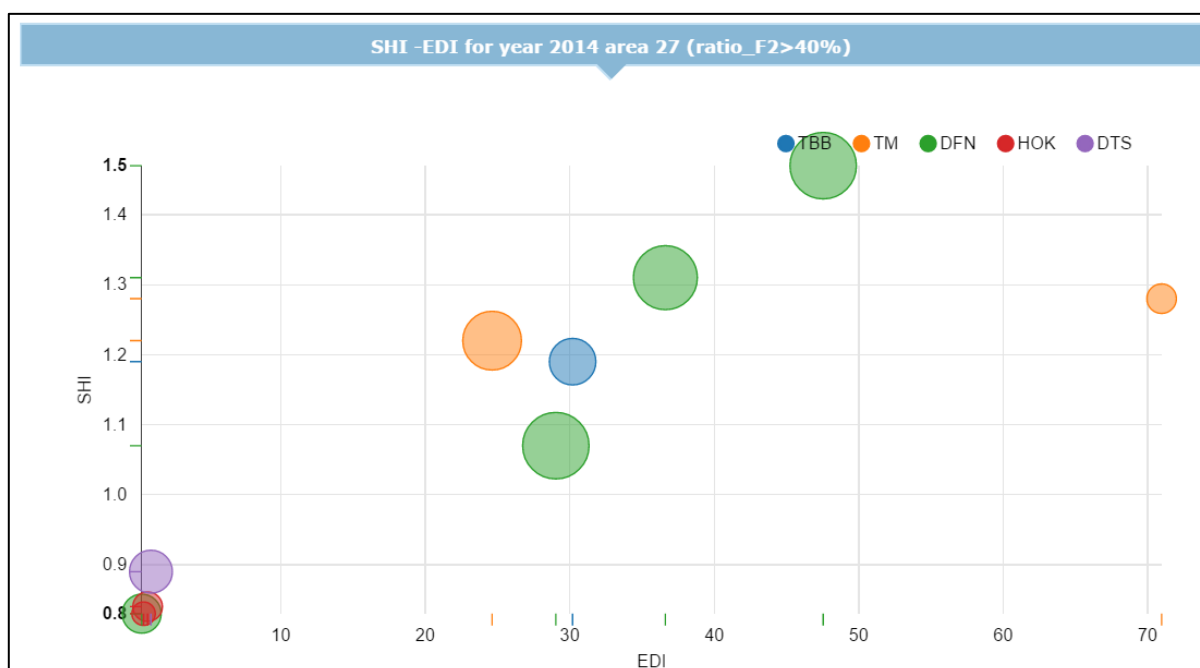


Figure 4.2.4.8. Results of Sustainable Harvest Indicator (SHI) and Economic Dependency Indicator (EDI) indicator calculation results for the French fleet operating in Area 27, reference year 2014. Only SHI calculation results where more than 40% of the annual value of landings came from assessed stock (ratio_F2>40%) are shown. Users can choose to restrict the display to a particular fishing technique by clicking on the relevant symbol in the legend.

4.3 Methods of Calculating Indicators and Trends

4.3.1 Sustainable Harvest Indicator (SHI)

According to the 2014 Balance Indicator Guidelines (COM 2014, 545 final), the sustainable harvest indicator is a measure of how much a fleet segment relies on stocks that are overfished. Here, “overfished” is assessed with reference to F_{MSY} values over time, and reliance is calculated in economic terms. Where F_{MSY} is defined as a range, exceeding the upper end of the range is interpreted as “overfishing”. Values of the indicator above 1 indicate that a fleet segment is, on average, relying for its income on fishing opportunities which are structurally set above levels corresponding to exploitation at levels corresponding to MSY. According to the 2014 Balance Indicator Guidelines this could be an indication of imbalance if it has occurred for three consecutive years. Shorter time period should be considered in the case of small pelagic species.

A detailed description and discussion of the methodology can be found in the STECF report 15-02. According to the 2014 Balance Indicator Guidelines the indicator is intended to reflect the extent to which a fleet segment is dependent on overfished stocks by calculating the weighted average for each national fleet segment (or cluster of segments dependent on the information provided by member states via the economic data call) where F_i is the fishing mortality available for stock i from scientific assessments (e.g. ICES and STECF advice) and V_i is the value of landings from stock i :

$$\frac{\sum_{i=1}^{i=n} V_i \frac{F_i}{F_{msy_i}}}{\sum_{i=1}^{i=n} \sum V_i}$$

Data on F_i (mean F) and F_{MSY} for fish stocks found in Area 27 were obtained from the ICES online database, a database of stock assessments carried out at STECF expert working groups compiled by the JRC (will be accessible from January 2017 on: <https://stecf.jrc.ec.europa.eu/dd/medbs>). For Area 37, and information on tuna / tuna-like species was obtained from the ICCAT website. The full indicator time series (2009-2014) was updated based on the most recent assessments available (2015 is most cases) and F_{MSY} point estimates. Ranges for F_{MSY} have been estimated by ICES for a number of stocks but have not been officially adopted for management at the time the working group met. Therefore, the SHI is based on the F_{MSY} point estimates only.

Landing's data are in many cases not available at stock level. EWG 16-09 decided to use the last five years of landings data provided by ICES together with stock assessment parameters to estimate the proportion of each stock in the DCF landing's data. The use of data from the ICES database is necessary since data reported under the DCF do not contain landings from shared stocks by non-EU fishing fleets.

For example, there are two cod stocks in Area 27.3.A: cod347d and cod-kat. There are two stock assessments, for which the most recent (2011- 2015) landings weights are as follows:

Stock	Years	Total Landings (t)	Formula	Splitting Value
cod-347d	2011-2015	207589	$=1/(207589/(207589+701))$	1.003376865
cod-kat	2011-2015	701	$=1/(701/(207589+701))$	297.133

For a hypothetical 100 Euros of declared cod, 100/1.003 will be assigned to cod347d and 100/297 to cod-kat:

Stock	Formula	Landing Values
cod-347d	100/1.003	99.66345
cod-kat	100/297.133	0.336550002
Total		100

In the Mediterranean a comprehensive database including both stock assessment parameters and landings data for EU and non-EU countries harvesting stocks is not available. As such, landings information from non-EU countries cannot be taken into account. However, Mediterranean GSA boundaries are generally used as stock boundaries (single GSAs or in several cases combined GSAs) and landings data are available at this level of spatial aggregation. As a result, all splitting values for the Mediterranean are 1.

A detailed overview of the values for splitting the stocks are provided in Annex IV of the present report.

EWG 16-09 considers that this methodology should be refined (e.g. annual splitting values could be calculated / splitting values could be calculated at FS level) after peer review by a larger number of experts with expertise in the various geographical regions for which the biological indicators are calculated.

The most important issues related to the calculation of indicator values discussed and addressed during the EWG 16-09 Prep. Meeting are outlined below:

- Stock Assessment Selection - The 2014 Balance Indicator Guidelines state the calculation of the SHI indicator should take into account '*the most recent value of fishing mortality available from scientific assessments*'. The EWG 16-09 Prep. Meeting discussed the approach which should be taken in the absence of recent, updated stock assessments, and agreed that the SHI should take into account all stocks for which the most recent assessment was undertaken in 2013 or more recently. Including all assessments undertaken since 2013 in particular increased coverage for the Mediterranean and Black Sea where numerous stock assessments are outdated.
- F_{MSY} Ranges - STECF 15-15 pointed out that proposals for stock management plans in the ICES area are currently taking into account F_{MSY} ranges, and that there is the possibility that F_{MSY} ranges may serve as the basis for future management. In such a scenario SHI calculations would need to be revised to reflect the use of F_{MSY} ranges in management plans, a scenario for which the 2014 Balance Indicator Guidelines state: '*Where Fmsy is defined as a range, exceeding the upper end of the range is interpreted as "overfishing"*'. The EWG 16-09 Prep. Meeting thus double checked whether any F_{MSY} ranges instead of point estimates had been adopted as the basis for management for any stocks in the ICES area by the 30th June 2016. In the case of Western Baltic (subdivisions 22–24) cod (*Gadus morhua*) the ICES advice provides information on F_{MSY} ranges, but the ICES advice for 2015, 2016 and 2017 is based on the MSY approach. SHI calculations thus continue to be based on point estimates of F_{MSY}.
- Norway Lobster FUs - Information from the ICES stock assessment graph database has been used to split the *Nephrops* landings in a given area into Functional Unit (FU) based estimates (if there was more than one FU in a given area). An average over the last five years' landings by FU has been used to calculate the splitting factors. Only *Nephrops* FUs with harvest rates and F_{MSY} values available (category 1 *Nephrops* stocks) are included in the calculation of the SHI indicator. Possible shortcomings of this method are described in section 4.4.2.
- Eastern Baltic Cod - The age based Eastern Baltic (subdivisions 25-32) cod stock assessment could no longer be accepted by ICES WGBFAS in 2014 mainly because of age reading problems as well as changes in growth rates leading to unknown changes in catchability. From 2014 onwards the stock has been assessed as a category 3 stock and an F_{MSY} value has no longer been provided by ICES. Therefore, the last F and F_{MSY} value available is the one from the 2014

assessment. During the EWG 16-09 Prep. Meeting it was discussed whether it could be appropriate to assume the 2013 F value to be constant for the following years and still use the old F_{MSY} value. This approach is applied to other stocks without newer update assessments. However, given that the assessment has been rejected by ICES WGBFAS, the EWG 16-09 Prep. Meeting decided that this is a different situation. It is unclear whether the 2013 F value is valid given the problems in the assessment that were present also before 2014. The rejection of the assessment also questions the validity of the old F_{MSY} estimate. As consequence the EWG 16-09 Prep. Meeting decided to withdraw Eastern Baltic cod completely from the SHI index calculations as there is currently no basis to determine the status of the stock.

- Highly Migratory Stocks (ICCAT) - Stock status information for highly migratory species under the jurisdiction of the ICCAT was reviewed to determine which stocks could be incorporated in the SHI indicator since a stock assessment database with stock status data are not available from ICCAT. Stocks were selected according to the following criteria:
 - The most recent assessment was undertaken in 2013 or more recently;
 - A value for F/F_{MSY} was given in, or a value for F/F_{MSY} could be derived using the information given in the relevant ICCAT report.

Using the above criteria, the following stocks were included in the SHI:

- Eastern Atlantic and Mediterranean Bluefin tuna (BFT);
- North Atlantic Swordfish (SWO ATLN);
- Atlantic Bigeye tuna (BET);
- North Atlantic Albacore (ALB ATLN);
- South Atlantic Albacore (ALB ATLS).

For BET and for ALB ATLN, time series of F/F_{MSY} were derived from Figures 6 and 17 in reports available at:

https://www.iccat.int/Documents/SCRS/ExecSum/BET_ENG.pdf

https://www.iccat.int/Documents/Meetings/Docs/2016_ALB_REPORT_ENG.pdf

In the absence of appropriate information in the ICCAT reports, no time series for F/F_{MSY} were available or could be derived for BFT, SWO ATLN or ALB ATLS. In such cases, the point estimates for F/F_{MSY} were assumed to remain constant over the time series used to calculate the SHI. Although the most recent assessment for Mediterranean Swordfish was in 2013, this stock was not included for calculating the SHI because of the problems with the 2014 assessment giving rise to high uncertainty associated with the stock status. A revised assessment was undertaken in 2016, but the report was not available by the 30 June cut-off date adopted by the EWG 16-09 Prep. Meeting.

- Mediterranean and Black Sea Biological Indicator Evaluation - The EWG 16-09 Prep. Meeting was informed that the calculation of the SHI for the Mediterranean and Black Sea fleet segments was carried out using the ratios of F/F_{MSY} by stock compiled in a database by JRC experts and provided to the expert calculating the SHI.

EWG 16-09 Prep. Meeting participants noted that the list of F/F_{MSY} ratios in the JRC database includes the outcomes of stock assessments carried out in the framework of STECF meetings from 2010 to 2015. In the absence of a comprehensive stock assessment database EWG 16-09 checked the availability of updated (reference year 2014) F/F_{MSY} ratios in the stock assessment forms available from GFCM website (<http://www.fao.org/gfcm/data/safs/en/>). However, when comparing the last reports of GFCM-WGSAD, GFCM-WGSASP and GFCM-WGBS SAC 2016 to the stock assessment forms available on the GFCM website it became clear that updated stock assessment results have yet to be published for some species. In addition, GFCM stock assessment forms do not always provide a timeseries of fishing mortality estimates (in several cases only graphs are included, and in others an estimate of fishing mortality is only provided for the most recent year). The EWG 16-09 Prep. Meeting thus decided not to include an only partially updated timeseries of recent F/F_{MSY} ratios estimated within the GFCM framework, and proceeded to evaluate the JRC stock assessment database. The implications of this approach are discussed in section 4.4.2.1.

In the JRC database, stock assessment outcomes are in some cases available for combined GSAs. In the case of the stocks listed in Table 3.3.1.1, evaluations by single GSAs were also available. Only in the case of deep-water rose shrimp in GSAs 17-18-19 and giant red shrimp in GSAs 18-19, STECF PLEN 16-01 advised to use combined assessment instead by single GSA for scientific advice. Such judgment was done mainly considering the outcomes of StockMed project (Fiorentino et al., 2014)⁷. Consequently, the EWG 16-09 Prep. Meeting made the same assumption for the estimation of SHI and did not consider the stock by single GSA listed in Table 4.3.1.1. However, in the case of spottail mantis shrimp (*Squilla mantis*) in GSAs 17-18, the SHI estimates also took into account the assessment carried by single GSA during STECF EWG 15-11, because such species was not analyzed in the framework of StockMed project and there is no evidence that the combined assessment would better reflect the status of the stock.

Table 4.3.1.1 - Stock assessed both by combined GSAs and single GSA at STECF EWGs.

STOCKS BY COMBINED GSA	MEETING	STOCKS BY SINGLE GSA	MEETING
Deep-water rose shrimp in GSAs 17-18-19	STECF EWG 15-11	Deep-water rose shrimp in GSA 19	STECF EWG 13-22
European hake in GSAs 01-05-06-07	STECF EWG 15-06	European hake in GSA 01	STECF EWG 13-22
		European hake in GSA 06	STECF EWG 14-14
		European hake in GSA 07	STECF EWG 14-14
European hake in GSAs	STECF EWG	European hake in GSA 09	STECF EWG

⁷ Fiorentino F., E. Massuti, F. Tinti, S. Somarakis, G. Garofalo, T. Russo, M.T. Facchini, P. Carbonara, K. Kapis, P. Tugores, R. Cannas, C. Tsigenopoulos, B. Patti, F. Colloca, M. Sbrana, R. Mifsud, V. Valavanis, and M.T. Spedicato (2014). Stock units: Identification of distinct biological units (stock units) for different fish and shellfish species and among different GFCM-GSA. STOCKMED Deliverable 03: FINAL REPORT. 215 p.

09-10-11	15-06
European hake in GSAs 17-18	STECF EWG 15-11
Giant red shrimp in GSAs 18-19	STECF EWG 15-11
Red mullet in GSAs 17-18	STECF EWG 15-11
Spottail mantis squillid in GSAs 17-18	STECF EWG 15-11

	14-14
European hake in GSA 10	STECF EWG 13-22
European hake in GSA 18	STECF EWG 13-22
Red mullet in GSA 17	STECF EWG 13-19
Red mullet in GSA 18	STECF EWG 14-19

Indicator Trends

SHI indicator trends were calculated according to the filters detailed below for the years 2010 - 2014.

Table 4.3.1.2 - Methodology used to automatically generate comments on indicator trends.

Filter 1	Filter 2	Result
At least the last 2 consecutive years with data	Slope* >0.5	Increasing
	Slope* <-0.5	Decreasing
	-0.5=<Slope*=<0.5	No significant trend**
	Slope = 0	Flat / null
No data for 2013 and/or 2014		No conclusion (Null value)

* The slope is calculated with the intercept of the trend line / the first value of the trend (a/i0)

** A threshold of 5% is used to indicate whether the value is significant or not.

Instances where the SHI indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments are highlighted in the indicator table. EWG 16-09 considers that for such fleet segments SHI indicator values cannot be used meaningfully to assess the balance or imbalance. No trend analysis were performed for such fleet segments.

4.3.2 Stocks at Risk Indicator (SAR)

According the 2014 Balance Indicator Guidelines (COM 2014, 545 final), the stocks at risk indicator is a measure of how many stocks are being affected by the activities of the fleet segment that are biologically vulnerable – in other words, stocks which are at low levels and are at risk of not being able to replenish themselves and which are either important in the catches of the fleet segment or where the fleet segment is important in the overall effects of fishing on the stock. If a fleet segment takes more than 10% of its catches taken from a stock which is at risk, or the fleet segment takes 10% or more of the total catches from that stock, the 2014 Balance Indicator Guidelines suggest that this could be treated as an indication of imbalance.

A detailed description and discussion of the methodology can be found in the reports of STECF 15-02 / 15-15. According to the 2014 Balance Indicator Guidelines the SAR indicator aims to count the number of stocks that are exploited by a fleet segment which are currently assessed as being at high biological risk. According the definition of the SAR indicator in the 2014 Balance Indicator Guidelines, a stock at risk (SAR) means a stock which is either:

- a) assessed as being below the B_{lim} ; or
- b) subject to an advice to close the fishery, to prohibit directed fisheries, to reduce the fishery to the lowest possible level, or similar advice from an international advisory body, even where such advice is given on a data-limited basis; or
- c) subject to a fishing opportunities regulation which stipulates that the fish should be returned to the sea unharmed or that landings are prohibited; or
- d) a stock which is on the IUCN 'red list' or is listed by CITES.

AND for which either:

- 1- the stocks make up to 10% or more of the catches by the fleet segment; or
- 2- the fleet segment takes 10% or more of the total catches from that stock.

The same methodology described in the STECF 15-02 / 15-15 reports was applied by the expert selecting stocks for the calculation of the SAR. The calculation of the indicator was then carried out using a routine written in R. The script is designed to compute the SAR indicator value, for the temporal range defined by the input data, for each fleet segment, by crossing-checking landings data with a list of stocks-at-risk.

The same methodology used for attributing landings data available at species level to stocks was used for the calculation of the SAR indicator (see section 4.3.1). The full list of stocks at risk identified for the assessed fleet segments in the reference year 2014 is presented in Annex IV.

SAR R Script: Inputs

Two main sources of data are used as input for the calculation:

- 1. The full database of the DCF Landings by year, species, areas and fleet segment;
- 2. The list of the stocks identified as "at-risk" for one (or more) of the conditions a) to b) in the previous definition. These stocks at risk are listed by year, stock code, FAO 3 alpha code and area.

The R script accepts as input the DCF Landings database provided by the JRC, exported in csv format, and computes the value of the SAR indicator for each fleet segment in the DCF landings database provided by the JRC. The list of the stocks as risk was organized as a binary (0/1) 2-way matrix, in which each row corresponds to a stock (identified by the stock code) or species (identified by the 3 alpha code and area), and each column corresponds to a year of the analysis.

SAR R Script: Version and Dependencies

The R script uses only two external packages:

- The openxlsx package available at CRAN (<https://cran.r-project.org/web/packages/openxlsx/index.html>). The package openxlsx requires the packages: methods, Rcpp ($\geq 0.11.1$), grDevices, stats, utils.
- The stringr package available at CRAN (<https://cran.r-project.org/web/packages/stringr/index.html>). The package stringr requires the packages: stringi ($\geq 0.4.1$), magrittr.

The R script can be used from basic R users and runs on different versions of R (not necessarily the latest release).

SAR R Script: Workflow

The workflow is summarized in Figure 4.3.2.1.

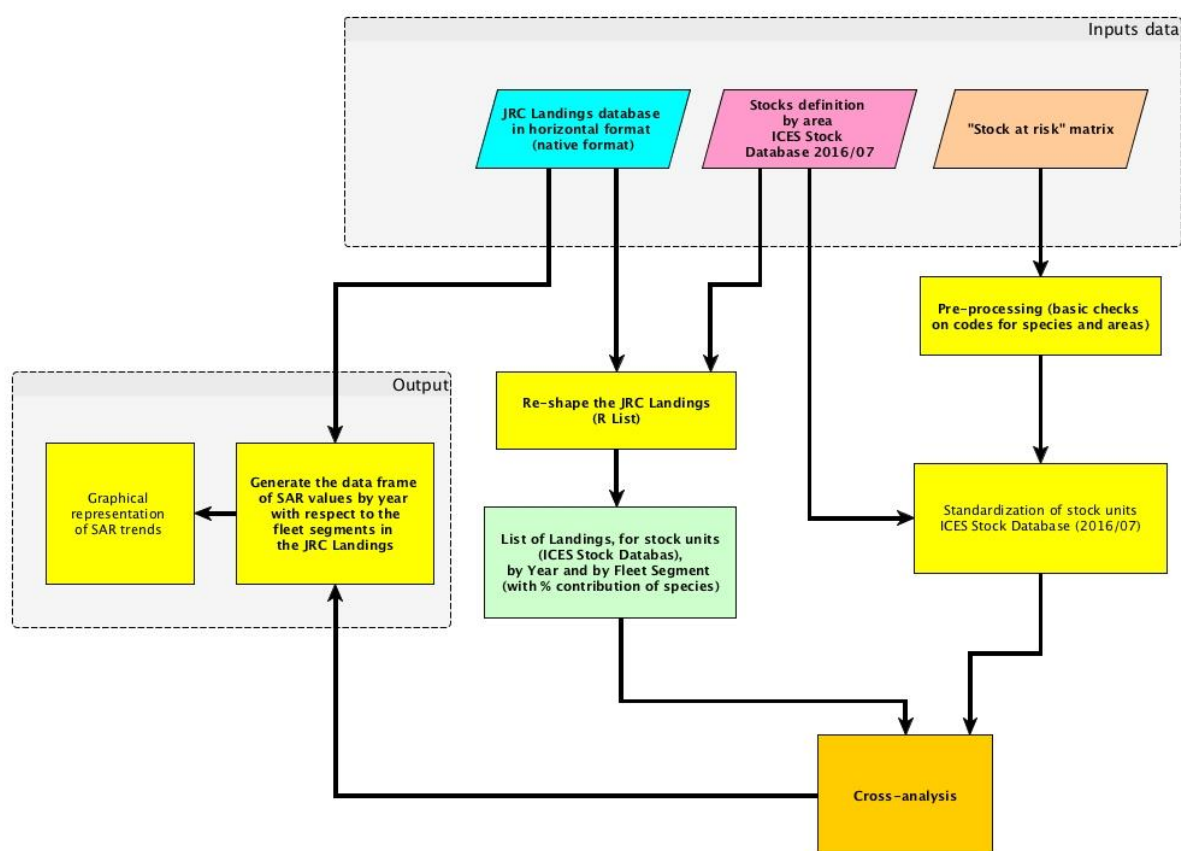


Figure 4.3.2.1. Workflow of the R script designed to calculate the SAR for EU fleet segments

According to a specific request of the JRC expert responsible for compiling the balance indicator table (Dr. Carvalho), the R script also performs a cross-checking with an input binary (0/1) 2-way matrix, in which each row corresponds to a fleet segment and related cluster, and each column corresponds to a year of the analysis. This matrix provides the information about the status (1-active or 0-inactive) of each fleet segment in the JRC landings database.

SAR R Script: Outputs

The R script returns two objects:

1. A data frame, exported as a common Excel File (.xlsx), in long format, with the following columns/fields:
 - a. Internal_Code
 - b. Member.State
 - c. Supra.Region
 - d. Fishing.technique
 - e. Vessel.length.group
 - f. Fleet.segment.name
 - g. Geo_indicator
 - h. sub_Fleet Segment
 - i. Year
 - j. Variable_code
 - k. Value
 - l. Stock_at_Risk
 - m. Activity

Each row of this data frame corresponds to a record, that is a set of information related to a specific fleet segment for a single year. The column "Value" provides the value of the SAR if the corresponding code in the "Variable code" is SAR. Otherwise, the column "Value" provides a binary value (0/1) when the code in the "Variable code" is Data. This value informs about the availability of landings data for that record. Thus, the combined information of SAR and Data allows distinguishing between fleet segments which did not land any stocks considered at risk (and then SAR is 0), and fleet segments for which landings data were not submitted by MS / where other problems were encountered. The column "Activity" returns the result of the cross-checking with the activity sheet provided by the JRC.

2. An R object of class "list", which contains the data (re-shape from the JRC landings database) for year and for fleet segment. This allows quickly inspecting the data being known the year and the fleet segment of interest. For instance, the element n°4 of this list for the year 2014 contains the data for the fleet segment "BEL AREA27 TBB VL2440 NGI":

- The data frame of the re-shaped landings

	supra_reg	stock_code	species_code	sub_reg	r_totwghtlandg	Percentage
1	AREA27		ANF	27.4.b	211254	1.190314e+00
2	AREA27	cod-347d	COD	27.4.b	1053627	5.936680e+00
3	AREA27		HAL	27.4.b	299	1.684721e-03
4	AREA27		RED	27.4.b	5	2.817259e-05
5	AREA27		CAA	27.4.b	72142	4.064853e-01
6	AREA27		RJH	27.4.b	16957	9.554451e-02

- The data frame of the stocks (if any) making up 10% or more of the catches by that fleet segment

	supra_reg	stock_code	species_code	sub_reg	r_totwghtlandg	Percentage	Percentage_by_Stock
23	AREA27		SKH	27.4.c	575	0.06730645	22.51988
77	AREA27		SCE	27.7.f	65448	7.66099519	10.78709
85	AREA27		SCE	27.7.h	81621	9.55412065	44.05089

This is the list of stocks for which at least one of the last two SAR conditions is true (either: 1- the stocks make up to 10% or more of the catches by the fleet segment; OR 2- the fleet segment takes 10% or more of the total catches from that stock).

- The data frame of the stocks (subset of the previous object) for which at least one of the SAR conditions is true AND one of the first four conditions of the SAR definition is true (either a- assessed as being below the B_{lim} ; or b- subject to an advice to close the fishery, to prohibit directed fisheries, to reduce the fishery to the lowest possible level, or similar advice from an international advisory body, even where such advice is given on a data-limited basis; or c- subject to a fishing opportunities regulation which stipulates that the fish should be returned to the sea unharmed or that landings are prohibited; or d- a stock which is on the IUCN 'red list' or is listed by CITES).

	stock_code	yAR
119	sol-iris	1
459	sol-bisc	1

A zero value for the SAR indicator in the MS balance indicator tables signifies either no stocks at risk were landed by a fleet segment or one or more stocks at risk were landed by a fleet segment but not in sufficient quantities to meet the criteria for inclusion specified in the 2014 Balance Indicator Guidelines.

The most important issues related to the calculation of indicator values discussed and (where possible) addressed during the EWG 16-09 Prep. Meeting are outlined below:

- Thornback Ray (*Raja clavata*) in ICES areas IV, IIIa and VIId - Thornback ray in area IIIa has been included as a SAR stock in the calculations because thornback ray in Union waters of IIIa is on the list of prohibited species in the TAC and quota regulations from 2009 - 2015. However, the ICES advice in recent years shows that the stock (which is defined for 27.4, 27.3a, 27.7d) is increasing and the ICES advice for 2013, 2014 and 2015 allows a TAC increase of 20%. Therefore, based on the advice from ICES, thornback ray in IV, IIIa and VIId should not be classified as stock at risk. Guidance is needed from the Commission on a priority ranking of the four SAR criteria. In the absence of such guidance only Thornback ray in area IIIa was still considered a stock at risk by the EWG 16-09 Prep. Meeting.
- Highly Migratory Stocks (ICCAT) - Stock status information for highly migratory species under the jurisdiction of the ICCAT was reviewed to determine which stocks could be incorporated in the SAR indicator. Selection of stocks for inclusion in the SAR was according to the criteria specified in the 2014 Indicator Guidelines,

but restricted to those stocks for which the most recent assessment was in 2013 or more recent years. Porbeagle (*Lamna nasus*) was included for calculating the SAR on the grounds that it is listed by CITES, and Southern Bluefin Tuna (*Thunnus maccoyii*) on the grounds that it is listed as Critically Endangered (CR) by IUCN.

- Mediterranean and Black Sea Biological Indicator Evaluation - The calculation of SAR for the Mediterranean and Black Sea fleet segments included the most recent stock status information available from GFCM (fewer parameters are required compared to the SHI indicator). However, stock biomass reference points (B_{lim} , $B_{current}$) were generally lacking for Mediterranean stocks. This is due to the fact that in most cases only short data time series are available when carrying out stock assessments. As a result, the SAR criterion 'a' (stocks assessed as being below the B_{lim} biological level) was generally not applicable. The EWG 16-09 Prep. Meeting discussed the fact that STECF EWG 15-06 and STECF EWG 15-11 provided biomass limit reference point for some stocks in the Mediterranean Sea. However, since the estimation is not coming from a stock-recruitment relationship but from an empirical decision setting $B_{lim} = B_{loss}$, experts decided not to include stock assessed as being below B_{loss} in the estimation of SAR for the Mediterranean. SAR selection in the Mediterranean and Black Sea was instead based mainly on criteria b – d of the 2014 Balance Indicator Guidelines.
- IUCN Listings The criteria specified in the 2014 Balance Indicator Guidelines, state that a stock is considered at high biological risk if it is on the IUCN "red list". Given the concerns about the manner in which IUCN Red List categories are assigned, the EWG 16-09 Prep. Meeting agreed with the approach taken by the expert selecting SAR to only consider species with a CR status until the precise categories are agreed with the Commission (see section on Indicator Issues, Problems and Caveats below for further details).

In order to ensure the SAR selection was up to date species listed as CR in the European Red List of Marine Fishes published by IUCN in 2015 (Nieto et al., 2015)⁸ were added to the SAR list:

- *Odontaspis ferox* (Smalltooth Sand Tiger) – Inclusion in SAR for 2015, no advice from ICES for the species and no other information or advice found on this species. Assessment undertaken in 2014 (2014-11-25).
- *Squatina aculeata* (Sawback Angelshark) – Inclusion in SAR for 2014 and 2015, assessment undertaken in 2014 (2014-10-20).
- *Leucoraja melitensis* (Maltese Skate) – Inclusion in SAR for 2014 and 2015, assessment undertaken in 2014 (2014-11-25).
- *Gymnura altavela* (Spiny Butterfly Ray) – Inclusion in SAR for 2014 and 2015, assessment undertaken in 2015 (2015-02-17).
- *Pteromylaeus bovinus* (Bullray) – Inclusion in SAR for 2014 and 2015, assessment undertaken in 2014 (2014-11-17).

⁸ Nieto et al. (2015). *European Red List of marine fishes*. Luxembourg: Publications Office of the European Union. ISBN: 978-92-79-45412-7; DOI: 10.2779/082723. 88pp.

- *Carcharias taurus* (Sand Tiger Shark) – Inclusion in SAR for 2014 and 2015, assessment undertaken in 2014 (2014-12-17).
- *Squatina squatina* (Angel Shark) – Already included in SAR 2009 – 2015.

Where new species were added to the SAR list, the relevant geographical ranges were investigated and corresponding FAO fishing areas added to Stock_Description column in the 2016 SAR stock selection sheet.

Indicator Trends

EWG 16-09 agreed with the conclusions reached in the STECF 15-02 / 15-15 reports that temporal trends in fleet segment SAR indicator values may be misleading, so no comments on trends are presented for the SAR.

4.3.3 Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

According the 2014 Balance Indicator Guidelines (COM 2014, 545 final), the Return on Investment (ROI) or Return on Fixed Tangible Assets (RoFTA) indicator compares the long-term profitability of the fishing fleet segment to other available investments. If this value is smaller than the low-risk long term interest rates available elsewhere, then this suggests that the fleet segment may be overcapitalised. If the return on investment or net profit is less than zero and less than the best available long-term risk-free interest rate, this is an indication of long-term economic inefficiency that could indicate the existence of an imbalance.

ROI (also referred to as capital productivity) is the return of the investment divided by the cost of the investment. It measures profits in relation to the capital invested, i.e. indicates how profitable a sector is relative to its total assets. The higher the return, the more efficient the sector is in utilising its asset base.

When data on intangible assets (e.g. fishing rights, natural resource) are not available, the Return on Fixed Tangible Assets (ROFTA) is used as an approximation of ROI.

ROI is calculated as:

Net profit / (fleet depreciated replacement value + estimated value of fishing rights)

where,

Net profit = (Income from landings + other income + income from fishing rights)

-

(crew wage + unpaid labour + energy + repair + other variable costs + non variable costs + fishing rights costs + annual depreciation)

ROI is compared against a Target Reference point (TRP). For this exercise, the 5-year average of the risk free long-term interest rate for each MS was used.

Note: Indicators are not calculated if one or more of the essential cost and income items were not provided e.g. Net profit is not calculated if depreciated replacement value was not provided.

RoFTA is calculated as

Net profit / (fleet depreciated replacement value);

where,

Net profit = (Income from landings + other income) - (crew wage + unpaid labour + energy + repair + other variable costs + non variable costs + annual depreciation)

EWG 16-09 applied the criteria of the 2014 Balance Indicator Guidelines to comment on whether fleet segments were 'in balance or ,out of balance'. When the indicator value was less than the interest rate, but greater than zero the comment ,not sufficiently profitable' was made.

Since ROI is only available for countries that provide data on fishing rights (income, costs and estimated value of fishing rights), and RoFTA is available for all MS except Greece, analysis was mainly based on RoFTA values.

Indicator Trends

Trends were calculated according to the filters detailed below for the years 2010 - 2014.

Table 4.3.3.1 - Methodology used to automatically generate comments on indicator trends.

Filter 1	Filter 2	Result
At least the last 2 consecutive years with data	Slope* >0.05	Increasing
	Slope* <-0.05	Decreasing
	-0.05=<Slope*=<0.05	No significant trend**
	Slope = 0	Flat / null
No data for 2013 and/or 2014		No conclusion (Null value)

* The slope is calculated with the intercept of the trend line / the first value of the trend (a/i0)

** A threshold of 5% is used to indicate whether the value is significant or not.

4.3.4 Ratio Current Revenue and Break-Even Revenue (CR/BER)

According to the 2014 Balance Indicator Guidelines (COM 2014, 545 final), the ratio between current revenue and break-even revenue measures the economic capability of the fleet segment to keep fishing on a day-by-day basis: does income cover the pay for the crew and the fuel and running costs for the vessel? If not, there may be an imbalance. If the ratio between current revenue and break-even revenue is less than one, this is an indication of short-term economic inefficiency that could indicate the existence of an imbalance.

Current revenue to break-even revenue ratio (CR/BER) is calculated as:

Current revenue (CR) / Break Even Revenue (BER),

where,

CR = income from landings + other income

where,

BER = fixed costs / (1-[variable costs / current revenue])

and,

Fixed costs = non variable costs + annual depreciation

and,

Variable costs = crew wage + unpaid labour + energy costs + repair costs + other variable costs

The EWG 16-09 Prep. Meeting discussed the fact that the 2014 Balance Indicator Guidelines allow for the possibility to include the opportunity cost of capital and the depreciation costs in the estimation. Experts considered that by including the depreciation cost and opportunity cost of capital the indicator is no longer a short term indicator but a long term one, having the same meaning of ROI and RoFTA. Hence, it was decided that depreciation cost and opportunity cost of capital, should not be included in the estimation of the indicator.

As for the ROI or RoFTA indicator, fleet segments frequently need to be grouped together in clusters in order to deliver economic data that does not breach confidentiality requirements. Fleet segments should only be clustered when the number of vessels in the fleet segment is too low to ensure confidentiality of sensitive economic data. As economic data are often only provided by the main fleet segment contained in the cluster, the other minor fleet segments in the cluster may not contain any data.

Indicator Trends

Trends were calculated according to the filters detailed below for the years 2010 - 2014.

Table 4.3.4.1 - Methodology used to automatically generate comments on indicator trends.

Filter 1	Filter 2	Result
At least the last 2 consecutive years with data	Slope* >0.05	Increasing
	Slope* <-0.05	Decreasing
	-0.05=<Slope*=<0.05	No significant trend**
	Slope = 0	Flat / null
No data for 2013 and/or 2014		No conclusion (Null value)

* The slope is calculated with the intercept of the trend line / the first value of the trend (a/i0)

** A threshold of 5% is used to indicate whether the value is significant or not.

4.3.5 The Inactive Fleet Indicators

According the 2014 Balance Indicator Guidelines (COM 2014, 545 final), the Vessel Use Indicators describe how intensively the ships in a fleet segment are being utilized. One of these Vessel Use Indicators is the Inactive Fleet Indicator, which describes the proportion of vessels that are not actually active at all (i.e. that did not fish at any time in the year).

The inactive vessels are split according to length classes. For each subgroup, the number of vessels, total GT and kW were provided per year. If the proportion of inactive vessels is more than 20% (in number or in GT or in kW) within a MS, this could indicate some technical inefficiency.

Indicator Trends

Trends were calculated according to the filters detailed below for the years 2010 - 2015.

Table 4.3.5.1 - Methodology used to automatically generate comments on indicator trends.

Filter 1	Filter 2	Result
At least the last 2 consecutive years with data	Slope* >0.05	Increasing
	Slope* <-0.05	Decreasing
	-0.05=<Slope*=<0.05	No significant trend**
	Slope = 0	Flat / null
No data for 2013 and/or 2014		No conclusion (Null value)

* The slope is calculated with the intercept of the trend line / the first value of the trend (a/i0)

** A threshold of 5% is used to indicate whether the value is significant or not.

4.3.6 The Vessel Use Indicator

According the 2014 Balance Indicator Guidelines (COM 2014, 545 final), the 'Vessel Use Indicators' describe how intensively the ships in a fleet segment are being utilised. One of these Vessel Use Indicators is the Vessel Utilisation Indicator, also known as the Vessel Utilisation Ratio (VUR). This indicator concerns the average activity levels of vessels that did fish least once in the year, taking account of the seasonality of the fishery and other restrictions. Under normal conditions, it can be expected that 10% or less of the vessels in a fleet segment should be inactive, which could be due to major repairs, refits, conversions or pending sales and transfers. If more than 20% of the fleet segment is recurrently inactive or if the average activity level of vessels in a fleet segment is recurrently less than 70% of the potential, workable activity of comparable vessels, this could indicate technical inefficiency, that may reveal the existence of an imbalance, unless it can be explained by other reasons, such as unexpected climatic or man-made events or emergency measures as foreseen in the CFP.

Two sets of values for this indicator were included in the balance indicator tables prepared by JRC: VUR per fleet segment based on max DAS (Days At Sea) provided by MS, and VUR per fleet segment based on a common max DAS of 220. In cases where MS does not provide the max DAS JRC applied 220 DAS as an alternative.

Indicator Trends

Trends were calculated according to the filters detailed below for the years 2010 - 2014.

Table 4.3.6.1 - Methodology used to automatically generate comments on indicator trends.

Filter 1	Filter 2	Result
At least the last 2 consecutive years with data	Slope* >0.05	Increasing
	Slope* <-0.05	Decreasing
	-0.05=<Slope*=<0.05	No significant trend**
	Slope = 0	Flat / null
No data for 2013 and/or		No conclusion (Null

2014		value)
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* The slope is calculated with the intercept of the trend line / the first value of the trend (a/i0)

** A threshold of 5% is used to indicate whether the value is significant or not.

4.4 Indicator Issues, Problems and Caveats

4.4.1 General Considerations

In line with the meeting TOR EWG 16-09 considered the technical, economic and biological indicators contained in the 2014 Balance Indicator Guidelines (COM 2014, 545 final), and commented on the balance or imbalance for the fleet segments provided according to the criteria of the guidelines.

The group could not assess in any detail the reliability of the data and indicator values which were made available in the limited time available. For biological indicators several errors were noted and corrected during the EWG 16-09 Prep. Meeting as well as during EWG 16-09, but it was not possible to fully assess the reliability of the data that were used to calculate indicator values. Instead, additional information on, for instance, the coverage of the indicator was provided. Further checking and/or peer review by experts from a wider range of Member States would thus have been appropriate prior to using the indicator values for the purpose of the EWG. For the technical and economic indicators, it was assumed that AER 2016 EWG 16-03 had already quality checked the data. In some cases, the assessment of the economic indicators was made difficult because of the use of inconsistent clustering of fleet segments over time by some MS, although overall there was an improvement in the clustering consistency.

Comments on whether specific fleet segments are in or out of balance with their fishing opportunities were made by EWG 16-09 based on the 2014 Balance Indicator Guidelines as requested by the TOR. The EWG nevertheless recognises and acknowledges that deciding whether a fleet segment is in, or out of balance with its fishing opportunities is a judgement which must include consideration of political aims and preferences and also depends on the individual characteristics of fleet segments, communities and fisheries. Such a judgement call should ultimately be made by fisheries management decision makers with relevant regional expertise.

Comments on indicator trends were automatically generated using a series of filters. The EWG considers that such automatically generated filters give better consistency than asking experts to comment on trends. EWG 16-09 considers that the definitions and thresholds used should in future be tested in more detail. Indicator specific methods may in future increase the accuracy of indicator trends, for instance the use of a moving average for the economic indicators could be considered due to the high level of fluctuations in some indicator values.

4.4.2 Biological Indicator Considerations

General issues, problems and caveats which affect the overall reliability of the biological indicators specified in the 2014 Balance Indicator Guidelines have already been highlighted in the STECF 15-02 and 15-15 reports, and a summary of proposed actions

is presented in Annex I. Additional caveats discussed in some detail by EWG 16-09 are presented below.

Aggregation of Landings Data into Species Groups

As already highlighted in STECF reports 15-02 and 15-15, landings data in value as well as weight are not always provided at species level by Member States, but instead reported as generic categories. An overview of the landings data submitted for generic species groups by the various Member States, together with an indication of the percentage of total landings values these species groups accounted for in each Member State in the reference year 2014 is provided in Annex II. EWG 16-09 notes that some of these species groups, for instance anglerfish, megrim or jack and horse mackerel comprise significant landing values. Improved data collection / processing / transmission procedures by Member States for such species would allow for a more accurate calculation of biological balance indicators.

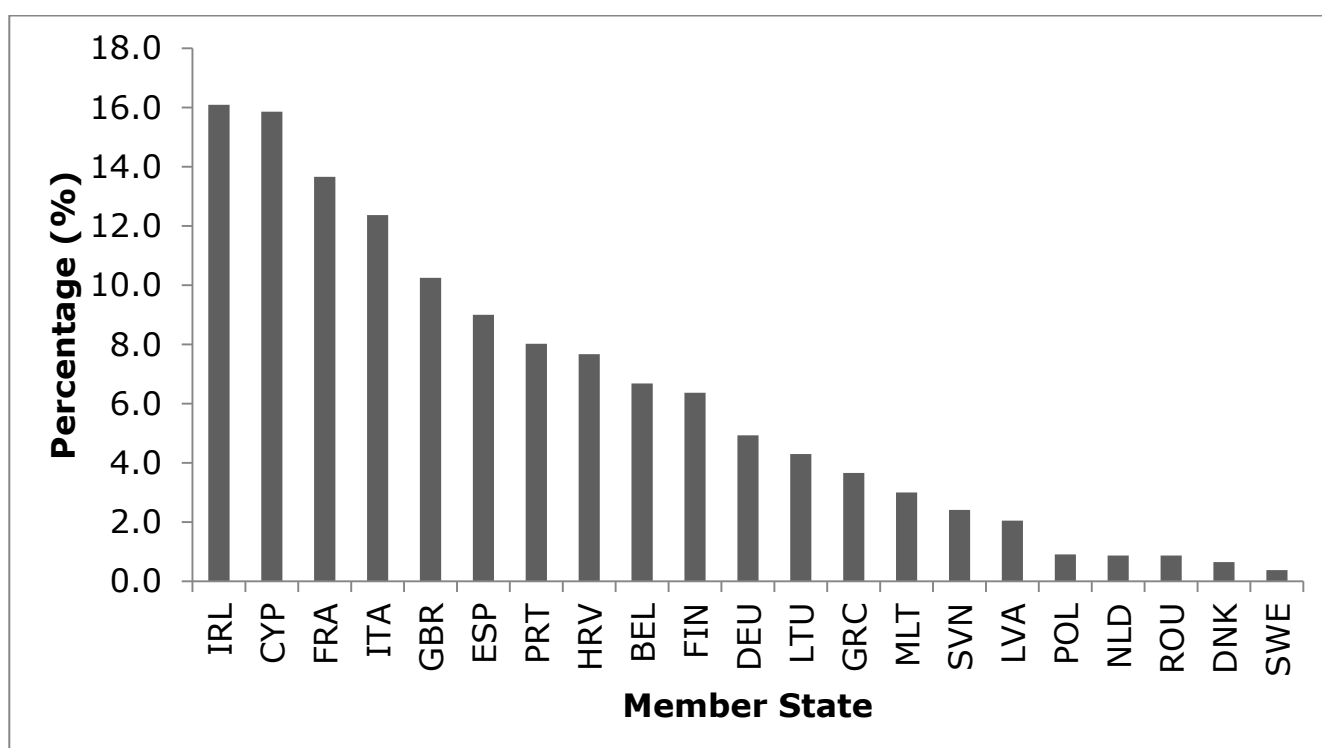


Figure 4.4.2.1. Percentage of total Member State landings values for which data were not submitted at species level in 2014, and which consequently could not be considered in biological indicator calculations.

Spatial Aggregation of Landings Data

There is an improvement in the spatial disaggregation of available landings data. In particular for Area 37 data are now generally available at Geographic Sub-Area (GSA) level (with the exception of one year of Spanish data), and in the Baltic Sea data were this year provided at a lower aggregation level (27.3.d.xx instead of 27.3.d). However, some issues remain:

- The beginning of the time series (years 2008-2010) for Poland is at an aggregation level which is too high to calculate the SHI.

- As explained in section 4.3.1, information from the ICES stock assessment graph database has been used to split the *Nephrops* landings in a given area into Functional Unit (FU) based estimates (if there was more than one FU in a given area). Although the split into FU specific landing estimates is a step forward, the approach chosen has some shortcomings:
 - The landings data in the ICES database are not available by country (although available in the advice summary sheets) and therefore one common splitting factor is used for all national fleets. Country specific differences are ignored.
 - The analysis only includes category 1 *Nephrops* stocks. If next to category 1 stocks also Data Limited Stocks (DLS) belong to a given area, the amount landed of category 1 *Nephrops* stocks is overestimated because DLS stocks are not taken into account when calculating the splitting factors.
 - If there are trends in splitting factors over the last 5 years, results would be biased to some degree because the average over the last 5 years is used.
- To circumvent difficulties with the splitting into FUs in the future, data submission of *Nephrops* landings by FU would need to be considered in the economic data call.
- In area 3A (Skagerrak and Kattegat) many stock areas only include the Skagerrak or Kattegat. EWG 16-09 considers that as in all other data calls (FDI, ICES data calls) it would be beneficial if also the economic data call would ask for information from the Skagerrak (27.3a.20) and Kattegat (27.3a.21) separately. This would ease the future assignment of landings data to stocks substantially.

4.4.2.1 Sustainable Harvest Indicator (SHI)

EWG 16-09 was informed that the calculation of the SHI for the Mediterranean and Black Sea fleet segments was carried out using the ratios of F/F_{MSY} by stock compiled in a database by JRC experts and provided to the expert calculating the SHI.

EWG 16-09 participants noted that since the list of F/F_{MSY} ratios in the JRC database only includes the outcomes of the assessment carried out in the framework of STECF meetings from 2010 to 2015, but information on stock status coming from GFCM assessments are not considered (see section 4.3.1), SHI calculations for the Mediterranean are imprecise and incomplete, especially in the case of fleet segments targeting shared stocks. For example, the estimation of SHI for fleet segments operating in GSA 15 and 16 did not consider the assessment of European hake and deep-water rose shrimp which have been historically carried out combining EU and non-EU GSAs (namely GSAs 12,13,14,15,16) by FAO / GFCM stock assessment working groups. These stocks are the most important demersal resource for Italian and Maltese fleets operating in the area, and a recent GFCM recommendation (GFCM/40/2016/4) established a multiannual plan for demersal fisheries in the Sicily Channel based on European hake and deep-water rose shrimp. EWG 16-09 Prep. Meeting considers that a single database with a complete list of updated assessments (as is available for the ICES region) is urgently required for the Mediterranean and Black Sea.

Table 4.4.2.1.1. List of stocks assessed by STECF-EWGs and available in the JRC stock assessment database. The GFCM stock assessments carried out in 2013-2015 which are

currently not included in the JRC Mediterranean stock assessment database are also listed.

Stock	Most Recent Reporting Year	
	STECF Assessment	GFCM Assessment
ane-gsa17_18	2014	2015
ane-gsa6		2014
ane-gsa29	2015	
ank-gsa05	2014	
ank-gsa06	2014	
ank-gsa15_16		2013
ara-gsa01	2015	
ara-gsa05		2015
ara-gsa06	2015	
ars-gsa09	2015	
ars-gsa10	2015	
ars-gsa11	2015	
ars-gsa18_19	2015	
bog-gsa25		2015
bft	2014	
dgs-gsa29	2015	
dps-gsa01	2013	
dps-gsa05	2013	
dps-gsa06	2013	2015
dps-gsa09	2014	2015
dps-gsa10	2013	2014
dps-gsa12_13_14_15_16		2015
dps-gsa17_18_19	2015	
hke-gsa01_05_06_07	2015	
hke-gsa09_10_11	2015	
hke-gsa12_13_14_15_16		2015
hke-gsa17_18	2015	
hke-gsa19	2015	
hmm-gsa29	2015	
mts-gsa17_18	2015	
mur-gsa05	2013	2015
mur-gsa15-16	2013	
mut-gsa01	2014	
mut-gsa05	2013	
mut-gsa06	2014	
mut-gsa07	2014	2015
mut-gsa09	2014	
mut-gsa10		2014
mut-gsa11	2013	
mut-gsa15-16	2013	
mut-gsa17_18	2015	
mut-gsa19	2015	

mut-gsa25		2015
mut-gsa29	2013	
nep-gsa05	2014	
nep-gsa09	2014	
nep-gsa15-16	2013	
nep-gsa18	2014	
pac-gsa15_16		2013
pil-gsa06	2014	
pil-gsa07		2015
pil-gsa16		2015
pil-gsa17_18	2014	2015
sol-gsa17	2015	
sbr-01_03		2013
spr-gsa29	2013	
tur-gsa29	2015	
whg_gsa29		2013
whb-gsa06	2014	
whb-gsa09	2014	

4.4.2.2 Stocks at Risk Indicator (SAR)

Criterion 'a' specified for the identification of stocks at risk in the 2014 Balance Indicator guidelines was generally not applicable for most of the stocks in Mediterranean, since these stocks lack B_{lim} estimates. SAR selection in the Mediterranean and Black Sea was instead based mainly on criteria b – d of the 2014 Balance Indicator Guidelines. Whilst reviewing the SAR indicators it was clear that the interpretation of several criteria is subjective. The rationale of interpreting criterion b for the Mediterranean Sea should be further discussed by future EWGs / during a revision of the guidelines by the Commission.

IUCN Listings The criteria specified in the 2014 Balance Indicator Guidelines, state that a stock is considered at high biological risk if it is on the IUCN "red list". EWG 16-09 discussed the fact that IUCN Red List Categories include both species with a low extinction risk and species with a high extinction risk.

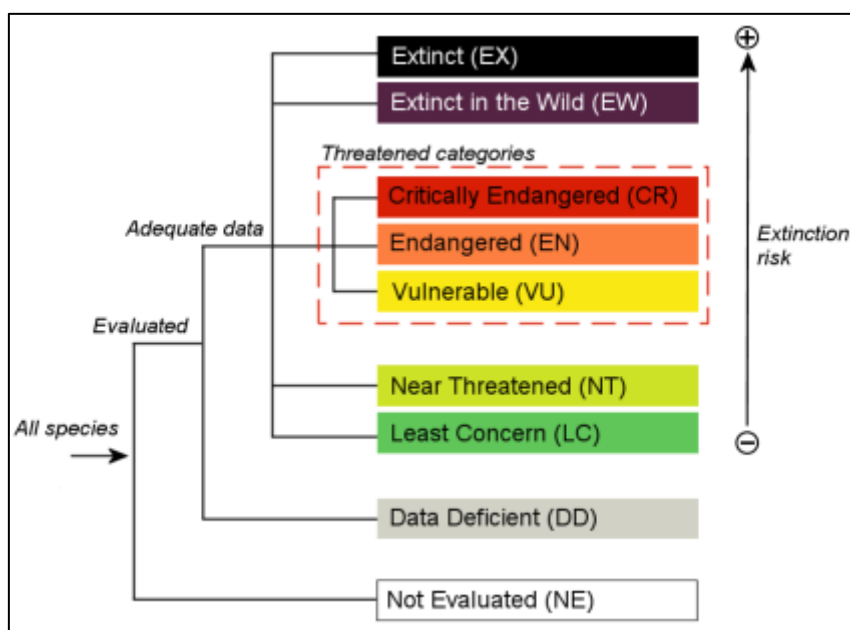


Figure 4.4.2.2.1. 2001 IUCN Red List Categories and Criteria, version 3.1⁹

Additional concerns raised by participants were the fact that (i) IUCN assessments are not updated regularly, and (ii) assessments are only available for large geographic regions and do not distinguish between different stocks, indeed status assessments in many cases do not distinguish between the status of a species in the Northern Atlantic and in the Mediterranean Sea. EWG 16-09 notes that STECF 15-15 suggests that 'in order to consider IUCN data in future (criterion d), the precise IUCN categories to be included in the SAR indicator calculations need to be agreed'. Given the concerns about the manner in which IUCN Red List categories are assigned, EWG 16-09 agreed with the approach taken by the expert selecting SAR to only consider species with a CR status until the precise categories are agreed with the Commission.

4.4.3 Economical and Technical Indicator Considerations

General issues, problems and caveats which affect the overall reliability of the economic and technical indicators specified in the 2014 Balance Indicator Guidelines have already been highlighted in the STECF 15-02 and 15-15 reports, and a summary of proposed actions is presented in Annex I. Additional caveats discussed in some detail by EWG 16-09 are presented below.

Data quality issues

Two main sources of information were used by EWG 16-09 to assess the quality of data used for the calculation of 'balance indicators': the dedicated section on data quality of the Country chapter in the AER 2016 and the Annex 3 of the same report. However, some quality data issues appear to still remain when looking at the indicators calculated by the JRC based on the DCF data provided by MS for this EWG (inconsistent values or trends) and were not pointed out by the EWG producing the AER. For example, there was not enough feedback on the quality of the data on capital value and costs from the

⁹ <http://www.iucnredlist.org/technical-documents/categories-and-criteria/2001-categories-criteria>

AER 2016. For some fleet segments, specifically fleet segments with vessel lengths under 12 m, indicator values are in some cases inconsistent.

Small DCF economic data samples and data quality indicators

EWG 16-09 reiterates the comments in last year's Balance report (STECF report 15-15, section 3.6.1).

Segmentation of the fleet

Fleet segments frequently need to be grouped together in clusters in order to deliver economic data that does not breach confidentiality requirements; fleet segments should only be clustered when the number of vessels in the fleet segment is too low to ensure confidentiality of sensitive economic data. Clustered fleet segments are marked in the balance indicator table to distinguish them from unclustered fleet segments, and all fleet segments in a cluster all have the same 'FS name' to make them identifiable. Furthermore, MS fleet segments are ordered by the FS name in the table, so all the sub-segments in a cluster are listed consecutively. Despite this, experts were not always able to easily distinguish which fleet segments are regrouped in the same cluster since clustering was inconsistent over the years, making the interpretation of indicator values difficult. In future an interactive visualisation tool could be developed to facilitate the interpretation of economic indicator values (e.g. Figure 4.2.4.1 in section 4.2.4 on 'Biological Indicator Visualisation Tool above).

It was evident that some Member States put in a lot of additional effort to make clustering time series more consistent. However, EWG 16-09 reiterates the comments on fleet segment clustering and segmentation caveats included in last year's report (STECF report 15-15, section 3.12.1).

Economically Most Important Segments

EWG 16-09 discussed how best to highlight economically important fleet segments in order to enable experts assessing economic indicators to focus on such segments. EWG 16-09 participants consider that such information could also be of relevance to fisheries managers. Since such information is not of relevance when interpreting biological indicators experts decided not to add information on economically important segments in the national sections on indicator findings. Instead it was suggested that additional information on values of landings made by individual fleet segments (e.g. as percentage contribution to total landings values of a Member States' landings in a particular supra-region) could in future be included in the balance indicator tables in addition to information on number of vessels which is already included in the table.

4.4.3.1 Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

EWG 16-09 notes that different approaches are taken when estimating the ROI and/or RoFTA indicators by the Annual Economic Report (AER) and Balance expert working groups. The 2014 Balance indicator Guidelines specify that the indicator is to be compared against the 'low risk long term interest rate'. The guidelines further suggest to use the 'arithmetic average interest rate for the previous 5 years'. On the other hand, the AER uses the 'real interest rate' when calculating the Opportunity cost of Capital, which would then be used as the reference point if or when assessing ROI or RoFTA in the AER. EWG 16-09 participants considered the discussion of this issue presented in Annex 1 of the AER 2016, as well as the possible ways forward presented by AER 2016 participants. Until the 2014 Balance Indicator Guidelines are amended Balance EWGs are

however not in a position to amend the manner in which the ROI and/or RoFTA indicators are calculated.

4.4.3.2 Ratio Current Revenue and Break-Even Revenue (CR/BER)

The *CR/BER* measures the economic capability of the fleet segment to keep fishing on a day-by-day basis. According to the 2014 Balance Indicator Guidelines, the *CR/BER* is calculated as: $CR/BER = Revenue / Break-Even Revenue$; where the *Revenue* considers income from landings and other income, while the *Break-Even Revenue (BER)* accounts for fixed and variable costs. However, the same Indicator Guidelines allow for the possibility to include the opportunity cost of capital and the depreciation costs in the estimation.

STECF 15-15 decided not to consider the opportunity cost of capital in the break even revenue calculations in order to differentiate from the ROI and RoTA indicators, and provide a more short-term approach. Similarly, EWG 16-09 considers that by including the depreciation cost and opportunity cost of capital the indicator is no longer a short term indicator but a long term one, having the same meaning of ROI and RoFTA. Hence, depreciation cost and opportunity cost of capital, should not be included in the estimation of the indicator.

In contrast to the approach taken in the STECF 15-02 report, trends in this indicator are presented in this report. However, EWG 16-09 reiterates the previous comment that due to the volatile nature of variable costs associated with fishing, the *CR/BER* indicator values may fluctuate considerably from one year to the next.

4.4.3.3 The Inactive Fleet Indicators

EWG 16-09 stresses again that especially in fleet segments with under 10 m vessels (small-scale coastal fleets), many vessels are only used part time and fishing is often not the only source of income. Therefore, this indicator needs to be treated with care and does not necessarily indicate that these fleet segments are not in balance.

4.4.3.4 The Vessel Use Indicator

As for the inactive fleet indicator EWG 16-09 wants also stress for the VUR that the small-scale fleet should be treated differently due to the fact that many fishers are only working part-time or fishing is only one source of income.

4.5 Indicator Findings – Regional Overviews

4.5.1 Area 27 – Northeast Atlantic

Sustainable Harvest Indicator (SHI)

Out of 353 fleet segments active in 2014, landings in value have been provided aggregated in 311 fleet segments and SHI indicator values were available for 289.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 183 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

The EWG notes that the 2014 SHI indicator for the 128 fleet segments that may be considered meaningful to assess balance or imbalance, accounted for 65% of the total value of the landings in 2014 provided by MS, and were as follows:

- 79 fleet segments may not be in balance with their fishing opportunities;
- 49 fleet segments may be in balance with their fishing opportunities.

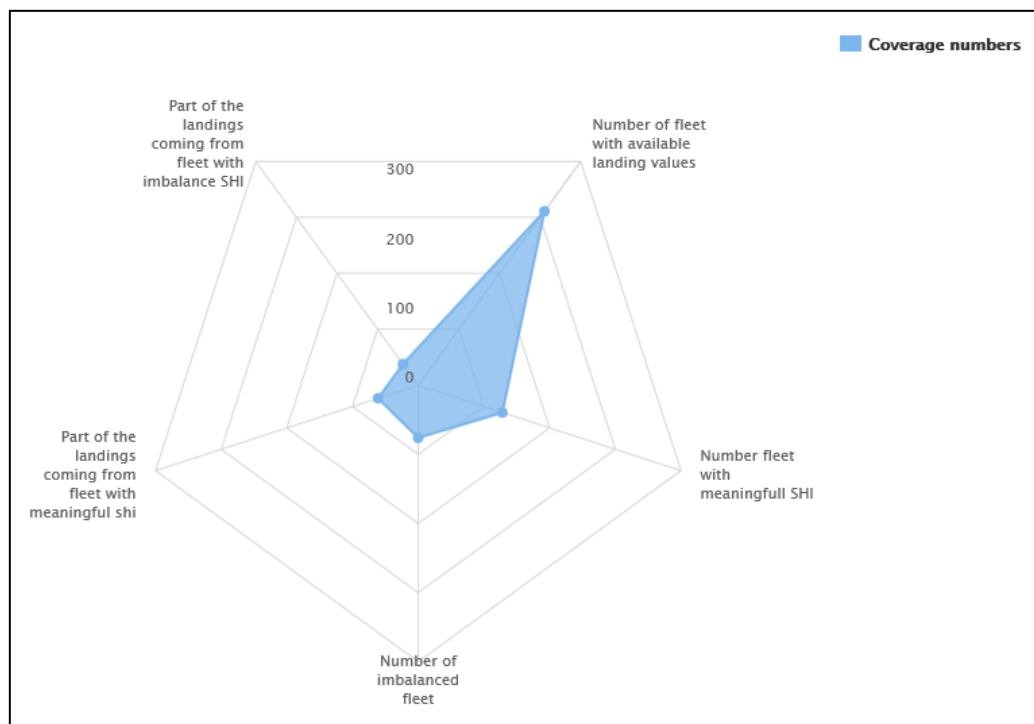


Figure 4.5.1.1. Diagram showing the SHI indicator information available for Area 27.

Stocks at Risk Indicator (SAR)

Out of 353 fleet segments active in 2014, SAR indicator values were available for 314, of which 77 were exploiting 1 stock at risk, 38 were exploiting 2 stocks at risk, 14 were exploiting 3 stocks at risk, 11 were exploiting 4 stocks at risk, 5 were exploiting 5 stocks at risk, 4 were exploiting 6 stocks at risk, 4 were exploiting 7 stocks at risk, and 1 was exploiting 10 stocks at risk.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate:

- 160 fleet segments may be in balance with their fishing opportunities;
- 154 fleet segments may not be in balance with their fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

In 2014, there are 353 active fleet segments in the Area 27 covering 15 EU countries. After clustering these amount to 236 segments.

The number of fleet segments for which the *ROFTA* indicator is available for 2014 is 217 and the number of segments for which trends are calculated is 207. Although for some countries ROI is available (RoI is available for fleet segments in 5 MS.), ROFTA is available for all countries and used for this regional analysis.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the RoFTA indicator values for the 217 fleet segments indicate that:

- 60 fleet segments may not be in balance with their fishing opportunities;
- 144 fleet segments appear to be in balance with their fishing opportunities.

For 121 segments an increasing trend is assessed for *ROFTA* while a decreasing trend is observed for 82 segments.

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

The number of fleet segments for which the *CR/BER* indicator is available is 217.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the CR/BER indicator values for the 217 fleet segments indicate that:

- 62 fleet segments may not be in balance with their fishing opportunities;
- 155 fleet segments appear to be in balance with their fishing opportunities.

The Inactive Fleet Indicators

In the European inactive fleets in Area 27 there are 47 fleet segments with 8582 inactive vessels reported for 2015. 20 fleet segments show decreasing trend in the number of inactive vessels and 10 showed increasing trend, others with no clear trend.

The Vessel Use Indicator

In the Area 27 the number of fleet segments for which the Vessel Use Indicator is available is 229. According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the VUR indicator values for segments in the Area 27 indicate that:

- 123 fleet segments may not be in balance with their fishing opportunities
- 106 fleet segments appear to be in balance with their fishing opportunities

For 27 segments an increasing trend is assessed for Vessel Use Indicator while a decreasing trend is observed for 22 segments

4.5.2 Area 37 – Mediterranean and Black Sea

Sustainable Harvest Indicator (SHI)

Out of 209 fleet segments active in 2014, landings in value have been provided aggregated in 185 fleet segments and SHI indicator values were available for 150.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 106 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

The EWG notes that the 2014 SHI indicator for the 44 fleet segments that may be considered meaningful to assess balance or imbalance, accounted for 12% of the total value of the landings in 2014 provided by MS, and were as follows:

- 36 fleet segments may not be in balance with their fishing opportunities;
- 8 fleet segments may be in balance with their fishing opportunities.

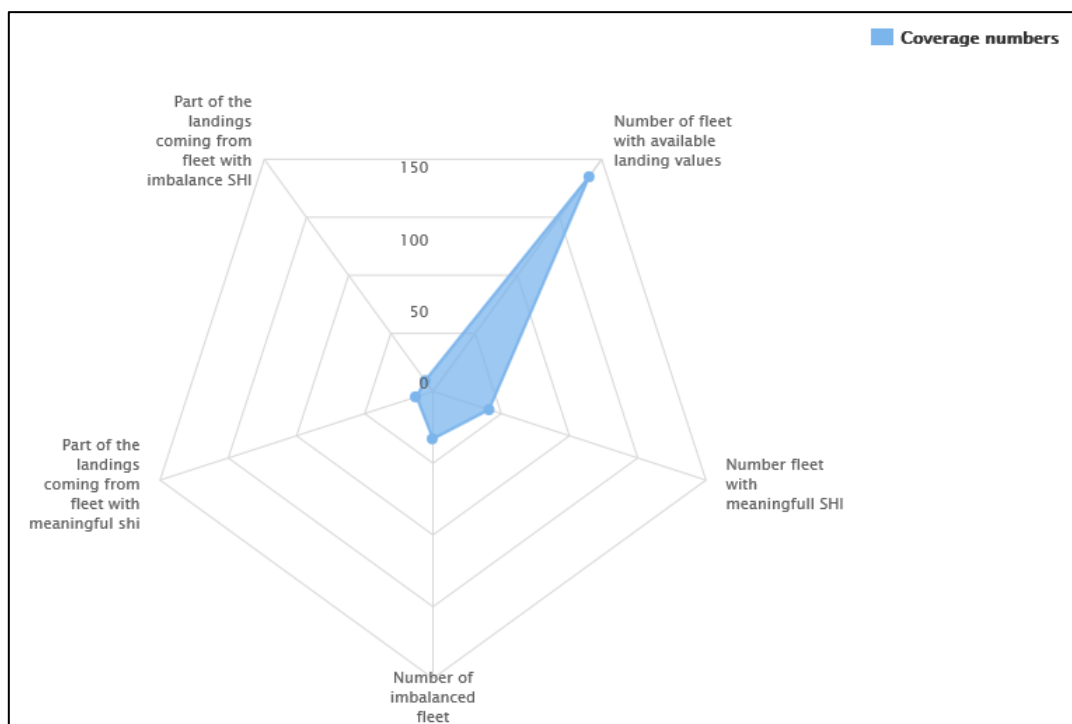


Figure 4.5.2.1. Diagram showing the SHI indicator information available for Area 37.

Stocks at Risk Indicator (SAR)

Out of 209 fleet segments active in 2014, SAR indicator values were available for 189, of which 15 were exploiting 1 stock at risk, and 3 were exploiting 2 stocks at risk.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate:

- 171 fleet segments may be in balance with their fishing opportunities;
- 18 fleet segments may not be in balance with their fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

In 2014, there are 209 fleet segments in Area 37. After clustering these amount to 150 segments.

The number of fleet segments for which the *ROFTA* indicator is available for 2014 is 144 and the number of segments for which trends are calculated is 104.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the *RoFTA* indicator values for the 144 Area 37 fleet segments indicate that:

- 71 fleet segments may not be in balance with their fishing opportunities;
- 63 fleet segments appear to be in balance with their fishing opportunities.

For 73 segments an increasing trend is assessed for *ROFTA* while a decreasing trend is observed for 31 segments.

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

The number of fleet segments for which the *CR/BER* indicator is available is 144.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the *CR/BER* indicator values for the 144 Area 37 fleet segments indicate that:

- 81 fleet segments may not be in balance with their fishing opportunities;
- 63 fleet segments appear to be in balance with their fishing opportunities.

The Inactive Fleet Indicators

There are 54 fleet segments in the inactive European fleets located in Area 37.

While of course they produce no *ROFTA*, *CR/BER*, or *VUR/VUR220* statistics, they still remain a potential complement to the existing capacity of the fleets and have the potential to delay or frustrate the success of direct measures to bring overcapacity into line with the available fishing opportunities by returning to the active fleets.

In the European inactive fleets in Area 37 there are 5537 inactive vessels reported for 2014, all but 5066 of them under 12m. Being the smallest vessels and with current technology their fishing potential and thus their ability to produce income for owners and crew is limited. Some MS have reported data for 2015 and they suggest that the numbers are increasing in some fleets and decreasing in others with no clear trend. The changes between 2014 and 2015 are generally relatively small except for Croatia where the number of inactive vessels has trebled.

4.5.3 OFR – EU Distant Waters and Outermost Regions

Sustainable Harvest Indicator (SHI)

Out of 56 fleet segments active in 2014, landings in value have been provided aggregated in 52 fleet segments and SHI indicator values were available for 32.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 26 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

The EWG notes that the 2014 SHI indicator for the 6 fleet segments that may be considered meaningful to assess balance or imbalance, accounted for 1% of the total value of the landings in 2014 provided by MS, and were as follows:

- 5 fleet segments may not be in balance with their fishing opportunities;
- 1 fleet segment may be in balance with their fishing opportunities.

In the period 2010-2014 the SHI indicator values considered meaningful to assess balance or imbalance showed no evident trend for 6 fleet segments.

Stocks at Risk Indicator (SAR)

Out of 56 fleet segments active in 2014, SAR indicator values were available for 52, of which 8 were exploiting 1 stock at risk and 3 were exploiting 2 stocks at risk.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate:

- 41 fleet segments may be in balance with their fishing opportunities;
- 11 fleet segments may not be in balance with their fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

In the OFR region there are 24 fleet segments for which a RoFTA indicator is available of which 17 show trends.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the RoFTA indicator values for the 24 fleet segments indicate that:

- 6 fleet segments may not be in balance with their fishing opportunities;
- 15 fleet segments appear to be in balance with their fishing opportunities;
- 3 fleet segments appear to be not sufficiently profitable.

For 10 segments an increasing trend is assessed for *ROFTA* while a decreasing trend is observed for 7 segments.

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

In the OFR region the number of fleet segments for which the *CR/BER* indicator is available is 24 with trends assessed for 17.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the CR/BER indicator values for the 24 fleet segments indicate that:

- 8 fleet segments may not be in balance with their fishing opportunities;
- 16 fleet segments appear to be in balance with their fishing opportunities.

For 5 segments a decreasing trend is shown, for 10 segments an increasing trend is shown while two segments show no trend.

The Inactive Fleet Indicators

In 2015, only three countries reported 6 vessel length segments had inactive vessels (VL0010, VL1012, VL1218, VL1824, VL2440, VL40XX).

The fleet segments with the highest levels of inactivity are the *VL0010* group at 11.2% in France 2013 and 3.97% in Portugal, and the *VL1012* group in France at 0.85% (2013) and Portugal *VL1824* at 0.8%.

The Vessel Use Indicator

The number of fleet segments for which the Vessel Use Indicator is available is 34. According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the VUR indicator values for the OFR segments, indicate that:

- 19 fleet segments may not be in balance with their fishing opportunities;
- 15 fleet segments appear to be in balance with their fishing opportunities.

For 6 segments an increasing trend is assessed for Vessel Use Indicator while a decreasing trend is observed for 3 segments.

4.6 Indicator Findings – National Sections

4.6.1 Belgium (BEL)

Sustainable Harvest Indicator (SHI)

Out of 11 fleet segments active in 2014, landings in value have been provided aggregated in 4 fleet segments and SHI indicator values were available for all 4.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 1 fleet segment cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

The EWG notes that the 2014 SHI indicator for the 3 fleet segments that may be considered meaningful to assess balance or imbalance, accounted for 97% of the total value of the landings in 2014 provided by MS, and were as follows:

- 3 fleet segments may not be in balance with their fishing opportunities.

In the period 2010-2014 the SHI indicator values considered meaningful to assess balance or imbalance were decreasing for 1 fleet segment and with no evident trend for 2 fleet segments.

Stocks at Risk Indicator (SAR)

Out of 11 fleet segments active in 2014, landings have been provided aggregated in 4 fleet segments and SAR indicator values were available for all 4, of which 1 was exploiting 1 stock at risk and 1 was exploiting 2 stocks at risk.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate:

- 2 fleet segments may be in balance with their fishing opportunities.
- 2 fleet segments may not be in balance with their fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

There are 11 fleet segments in the Belgian fleet. After clustering these amount to 4 segments.

The number of fleet segments for which the *ROFTA* indicator is available for 2014 is 4 and the number of segments for which trends are calculated is 4.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the *RoFTA* indicator values for the 4 Belgian fleet segments indicate that:

- 2 fleet segments may not be in balance with their fishing opportunities
- 2 fleet segments appear to be in balance with their fishing opportunities

For 1 segment an increasing trend is assessed for *ROFTA* while a decreasing trend is observed for 3 segments.

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

The number of fleet segments for which the *CR/BER* indicator is available is 4.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the *CR/BER* indicator values for the 4 Belgian fleet segments indicate that:

- 2 fleet segments may not be in balance with their fishing opportunities
- 2 fleet segments appear to be in balance with their fishing opportunities

For 1 segment a decreasing trend is shown, for one segment an increasing trend is shown while the other two segments show no trend.

The Inactive Fleet Indicators

In 2015, only 4 vessel length segments had inactive vessels (VL1012, VL1218, VL1824, VL2440). These length classes are clustered into one segment (VL2440).

The total inactive Belgian vessels account for 8% of the total number of vessels, 3% of the total GT and 5% of the total kW.

The Vessel Use Indicator

The number of fleet segments for which the Vessel Use Indicator is available is 4.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the *VUR* indicator values for the 4 Belgian segments indicate that:

- 0 fleet segments may not be in balance with their fishing opportunities (0 segments below 12m and 0 above 12m);
- 4 fleet segments appear to be in balance with their fishing opportunities (0 segments below 12m and 4 above 12m).

For 3 segments no trend is assessed for Vessel Use Indicator while a decreasing trend is observed for 1 segment.

Only one vessel length class shows inactivity which is quite surprising; this may be due to data issues.

4.6.2 Bulgaria (BGR)

Sustainable Harvest Indicator (SHI)

Out of 23 active fleet segments in 2014, the SHI indicator was available for 23.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 5 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

The EWG notes that the 2014 SHI indicator for the 18 fleet segments that may be considered meaningful to assess balance or imbalance, accounted for 35% of the total value of the landings in 2014 provided by MS, and were as follows:

- 17 fleet segments may not be in balance with their fishing opportunities;
- 1 fleet segment may be in balance with their fishing opportunities.

In the period 2010-2014 the SHI indicator values considered meaningful to assess balance or imbalance were, increasing for 6, decreasing for 11 fleet segments and with no evident trend for 1 fleet segment.

Stocks at Risk Indicator (SAR)

SAR indicator was available for all the 23 active fleet segments in 2014, of which 4 were exploiting 1 stock at risk and 1 was exploiting 2 stocks at risk.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate:

- 18 fleet segments may be in balance with their fishing opportunities;
- 5 fleet segments may not be in balance with their fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

There were 23 fleet segments in the Bulgarian fleet in 2014. After clustering these amount to 16 segments.

The number of fleet segments for which the *ROFTA* indicator is available for 2014 is 16 and the number of segments for which trends are calculated for 4 segments.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the *ROFTA* indicator values for the Bulgarian fleet segments indicate that:

- 12 fleet segments may not be in balance with their fishing opportunities;
- 3 fleet segments appear to be in balance with their fishing opportunities.

For four segments an increasing trend is assessed for *ROFTA*.

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

The number of fleet segments for which the *CR/BER* indicator is available is 16.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the *CR/BER* indicator values for the Bulgarian fleet segments indicate that:

- 14 fleet segments may not be in balance with their fishing opportunities;
- 2 fleet segments appear to be in balance with their fishing opportunities.

The Inactive Fleet Indicators

In 2015, 4 vessel length classes had inactive vessels (*VL0006*, *VL0612*, *VL1218*, *VL1824*). The total inactive Bulgarian vessels account for 39% of the total number of vessels, 22% of the total GT and 29% of the total kW.

The fleet segments with the highest levels of inactivity are the *VL0612* group at 25% in terms of number of vessels and at 22% in terms of kW.

All length classes show a decreasing trend in terms of kW and three in terms of number of vessels with one class without a trend.

The Vessel Use Indicator

The number of fleet segments for which the Vessel Use Indicator is available is 16.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the VUR indicator values for the Bulgarian segments indicate that:

- 1 fleet segment may not be in balance with their fishing opportunities;
- 15 fleet segments appear to be in balance with their fishing opportunities.

For 3 segments an increasing trend is assessed for Vessel Use Indicator.

4.6.3 Croatia (HRV)

Sustainable Harvest Indicator (SHI)

Out of 35 fleet segments active in 2014, landings in value have been provided aggregated in 34 fleet segments and SHI indicator values were available for 33.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 258 (25) fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

The EWG notes that the 2014 SHI indicator for the 85 fleet segments that may be considered meaningful to assess balance or imbalance, accounted for 52% of the total value of the landings in 2014 provided by MS, and were as follows:

- 85 (8) fleet segments may not be in balance with their fishing opportunities.

In the period 2010-2014 the SHI indicator values considered meaningful to assess balance or imbalance were decreasing for all the 75 8 fleet segments.

Stocks at Risk Indicator (SAR)

Out of 35 fleet segments active in 2014, landings have been provided aggregated in 34 fleet segments and SAR indicator values were available for all of them.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate that all the 34 fleet segments may be in balance with their fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

There are 35 active fleet segments in the Croatian fleet. After clustering these amount to 23 segments.

The number of fleet segments for which the *ROFTA* indicator is available for 2014 is 23 and the number of segments for which trends are calculated is 21.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the RoFTA indicator values for the 23 Croatian fleet segments indicate that:

- 12 fleet segments may not be in balance with their fishing opportunities;
- 3 fleet segments appear to be not sufficiently profitable;
- 8 fleet segments appear to be in balance with their fishing opportunities.

For all 21 segments an increasing trend is assessed for *ROFTA* while for two segments there was insufficient data in the time series to calculate a trend.

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

The number of fleet segments for which the *CR/BER* indicator is available is 23 (with trends for 21).

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the CR/BER indicator values for the 23 Croatian fleet segments indicate that:

- 17 fleet segments may not be in balance with their fishing opportunities;
- 6 fleet segments appear to be in balance with their fishing opportunities.

For 19 fleet segments an increasing trend is shown while for 2 segments a flat/null trend was shown with one segment showing no trend.

The Inactive Fleet Indicators

In 2015, 5 vessel length segments had inactive vessels (*VL0006*, *VL0612*, *VL1218*, *VL1824*, *VL2440*).

The total inactive Croatian vessels account for 64% of the total number of vessels - a significant increase on the 38% reported in 2014 and in most part due to the increase in number of inactive vessels between 6 and 12m (3 063 in 2015, up from 732 in 2014), 39% of the total GT and 43% of the total kW.

The fleet segments with the highest levels of inactivity are the *VL0612* group at 39% in vessel numbers (26% in kW), and the *VL0006* group at 23% (7% in kW).

The Vessel Use Indicator

The number of fleet segments for which the Vessel Use Indicator is available is 23 (with trends for 21).

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the VUR indicator values for the 23 Croatian segments indicate that:

- 11 fleet segments may not be in balance with their fishing opportunities (7 segments below 12m and 4 above 12m);
- 12 fleet segments appear to be in balance with their fishing opportunities (8 segments below 12m and 4 above 12m).

For 6 segments an increasing trend is assessed for Vessel Use Indicator while a decreasing trend is observed for 1 segment, with no trend assessed for 14 segments. Insufficient data in the time series is available to assess two segments.

4.6.4 Cyprus (CYP)

Sustainable Harvest Indicator (SHI)

Out of 6 active fleet segments in 2014, the SHI indicator was available for none of them.

Stocks at Risk Indicator (SAR)

SAR indicator was available for all the 6 active fleet segments in 2014.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate that all the 6 fleet segments may be in balance with their fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

There are 8 fleet segments in the Cypriot fleet. After clustering these amount to 6 segments in 2014.

The number of fleet segments for which the *ROFTA* indicator is available for 2014 is 6 and the number of segments for which trends are calculated is 6.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the RoFTA indicator values for the 6 Cypriot fleet segments indicate that:

- 3 fleet segments may not be in balance with their fishing opportunities;
- 1 fleet segment appears to be in balance with its fishing opportunities.

For 6 segments an increasing trend is assessed for *ROFTA* while no segments show a decreasing trend.

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

The number of fleet segments for which the *CR/BER* indicator is available is 6.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the CR/BER indicator values for the 6 Cypriot fleet segments indicate that:

- 5 fleet segments may not be in balance with their fishing opportunities;
- 1 fleet segment appears to be in balance with their fishing opportunities.

The Inactive Fleet Indicators

In 2015, no Cypriot fleet segments were considered inactive.

The Vessel Use Indicator

The number of fleet segments for which the Vessel Use Indicator (*VUR220*) is available is 6.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the VUR indicator values for the 6 Cypriot segments indicate that:

- 6 fleet segments may not be in balance with their fishing opportunities;
- 0 fleet segments appear to be in balance with their fishing opportunities.

For all 6 segments no trend in the Vessel Use Indicator (*VUR220*) is observable.

Quality and Consistency Considerations Regarding the Cypriot Data

The Annual Economic Report 2016 makes no report on the quality and consistency of the data from Cyprus.

4.6.5 Denmark (DNK)

Sustainable Harvest Indicator (SHI)

Out of 19 active fleet segments in 2014, the SHI indicator was available for 17.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 2 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

The EWG notes that the 2014 SHI indicator for the 15 fleet segments that may be considered meaningful to assess balance or imbalance, accounted for 94% of the total value of the landings in 2014 provided by MS, and were as follows:

- 9 fleet segments may not be in balance with their fishing opportunities;
- 6 fleet segments may be in balance with their fishing opportunities.

In the period 2010-2014 the SHI indicator values considered meaningful to assess balance or imbalance were increasing for 1 fleet segment, decreasing for 7 fleet segments and with no evident trend for 7 fleet segments.

Stocks at Risk Indicator (SAR)

Out of 19 active fleet segments in 2014, the SAR indicator was available for all of them, of which 4 were exploiting 1 stock at risk, 1 were exploiting 2 stocks at risk, 1 was exploiting 3 stocks at risk, 3 were exploiting 4 stocks at risk, 2 were exploiting 5 stocks at risk and 1 was exploiting 6 stocks at risk.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate:

- 7 fleet segments may be in balance with their fishing opportunities;
- 12 fleet segments may not be in balance with their fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

In 2014, there are 19 active fleet segments (including clusters) in the Danish fleet.

The number of fleet segments for which the *ROI* indicator is available for 2014 is 19 and the number of segments for which trends are calculated is 19.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the ROI indicator values for the 19 Danish fleet segments indicate that:

- 9 fleet segments may not be in balance with their fishing opportunities;
- 7 fleet segments appear to be in balance with their fishing opportunities.

For 12 segment(s) an increasing trend is assessed for *ROI* while a decreasing trend is observed for 7 segment(s).

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

The number of fleet segments for which the *CR/BER* indicator is available is 19.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the CR/BER indicator values for the 19 Danish fleet segments indicate that:

- 9 fleet segments may not be in balance with their fishing opportunities;
- 10 fleet segments appear to be in balance with their fishing opportunities.

The Inactive Fleet Indicators

No data on Danish inactive vessels is available for 2015.

The Vessel Use Indicator

A VUR220 ratio is available from 2008 to 2014 only. The number of fleet segments for which the Vessel Use Indicator 220 is available is 19.

Quality of data

According to the AER 2016 (Annex 3), data quality issues rely on the unavailability of capacity and transversal data for 2015 (high severity) and some difference greater than 5% for some fleet segments and years between landing income and landings value (Low/medium severity).

4.6.6 Estonia (EST)

Sustainable Harvest Indicator (SHI)

Out of 8 active fleet segments in 2014, the SHI indicator was available for 6.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 2 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

The EWG notes that the 2014 SHI indicator for the 4 fleet segments that may be considered meaningful to assess balance or imbalance, accounted for 64% of the total value of the landings in 2014 provided by MS, and were as follows:

- 3 fleet segments may not be in balance with their fishing opportunities;
- 1 fleet segment may be in balance with their fishing opportunities.

In the period 2010-2014 the SHI indicator values considered meaningful to assess balance or imbalance were decreasing for 1 fleet segment and with no evident trend for 3 fleet segments.

Stocks at Risk Indicator (SAR)

SAR indicator was available for all the 8 active fleet segments in 2014, of which 1 was exploiting 1 stock at risk.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate:

- 7 fleet segments may be in balance with their fishing opportunities;
- 1 fleet segment may not be in balance with its fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

There are 10 fleet segments in the Estonian fleet. After clustering these amount to 7 segments in 2014.

The number of fleet segments for which the *ROI* indicator is available for 2014 is 4 and the number of segments for which trends are calculated is 4.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the ROI indicator values for the Estonian fleet segments indicate that:

- 2 fleet segments may not be in balance with their fishing opportunities;
- 2 fleet segments appear to be in balance with their fishing opportunities.

For 2 segment(s) an increasing trend is assessed for *ROI* while a decreasing trend is observed for 1 segment.

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

The number of fleet segments for which the *CR/BER* indicator is available is 3.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the CR/BER indicator values for the Estonian fleet segments indicate that:

- 1 fleet segment may not be in balance with their fishing opportunities;

- 2 fleet segments appear to be in balance with their fishing opportunities.

The Inactive Fleet Indicators

In 2015, 1 vessel length segment had inactive vessels (VL1218).

The total inactive Estonian vessels in the one remaining fleet segment account for less than 1% of the total number of vessels and for total kW.

The Vessel Use Indicator

The number of fleet segments for which the Vessel Use Indicator is available is 0.

Data issues

Due to confidentiality reasons Estonia cannot provide economic data for the long distant fleet (TM 40XX) in the AER 2016 and the Fleet Report. However, in the Fleet Report this segment is discussed without any background information.

Consistency of indicators calculation with National Report

The results for the calculation of RoFTA differ between the balance indicator table and the National Report. The same seems to be the case of CR/BER. In the National Report Estonia shows 4 segments for the VUR but in the balance indicator table only for two segments data are included.

4.6.7 Finland (FIN)

Sustainable Harvest Indicator (SHI)

Out of 10 fleet segments active in 2014, landings in value have been provided aggregated in 5 fleet segments and SHI indicator values were available for all 5.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 1 fleet segment cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

The EWG notes that the 2014 SHI indicator for the 4 fleet segments that may be considered meaningful to assess balance or imbalance, accounted for 74% of the total value of the landings in 2014 provided by MS, and were as follows:

- 1 fleet segment may not be in balance with their fishing opportunities;
- 3 fleet segments may be in balance with their fishing opportunities.

In the period 2010-2014 the SHI indicator values considered meaningful to assess balance or imbalance were decreasing for 1 fleet segment and with no evident trend for 3 fleet segments.

Stocks at Risk Indicator (SAR)

Out of 10 fleet segments active in 2014, landings have been provided aggregated in 5 fleet segments and SAR indicator values was available for all 5, of which 1 was exploiting 2 stocks at risk.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate:

- 4 fleet segments may be in balance with their fishing opportunities;
- 1 fleet segment may not be in balance with their fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

In 2014, there are 8 active fleet segments in the Finnish fleet. After clustering these amount to 5 segments.

The number of fleet segments for which the *ROFTA* indicator is available for 2014 is 5 and the number of segments for which trends are calculated is 5.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the RoFTA indicator values for the 5 Finnish fleet segments indicate that:

- 5 fleet segments may not be in balance with their fishing opportunities.

For these 5 segments an increasing trend is assessed for *ROFTA*.

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

The number of fleet segments for which the *CR/BER* indicator is available is 5.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the CR/BER indicator values for the 5 Finnish fleet segments indicate that:

- 5 fleet segments may not be in balance with their fishing opportunities

The Inactive Fleet Indicators

In 2015, 3 vessel length segments had inactive vessels (*VL0010*, *VL1012* and *VL1218*). The total inactive Finnish vessels account for 44.7% of the total number of vessels, 20.7% of the total GT and 36.8% of the total kW.

The fleet segments with the highest levels of inactivity are the VL0010 group at 40.9% in number and 26.1% in kW, and the VL1012 group at 3.7% in number and 10.2% in kW.

The Vessel Use Indicator

The number of fleet segments for which the Vessel Use Indicator is available is 5.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the VUR indicator values for the 5 Finnish segments indicate that:

- 3 fleet segments (1 above 12 meters) may not be in balance with their fishing opportunities;
- 2 fleet segments (2 above 12 meters) appear to be in balance with their fishing opportunities.

For 2 segments (2 above 12 meters) an increasing trend is assessed for Vessel Use Indicator while no trend is observed for 3 segments.

Quality of data

According to the AER 2016 (Annex 3), there is no major data quality issues.

However, there are major differences between the data set used for the calculation of economic indicators under the Finnish national report and the data available for the EWG 16-09 leading to major differences in conclusions on Finnish segment fleets economic performances. A change in methodology and assumptions used in the Perpetual Inventory Method (PIM) is mentioned in the AER 2016 (p. 252) concluding that "these updates have greatly affected depreciated replacement values and the depreciation reported for 2008-2014 affecting also the net profits of the sector".

4.6.8 France (FRA)

Sustainable Harvest Indicator (SHI)

Out of 97 fleet segments active in 2014, landings in value have been provided aggregated in 90 fleet segments and SHI indicator values were available for 70.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 58 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

The EWG notes that the 2014 SHI indicator for the 12 fleet segments that may be considered meaningful to assess balance or imbalance, accounted for 26% of the total value of the landings in 2014 provided by MS, and were as follows:

- 6 fleet segments may not be in balance with their fishing opportunities;
- 6 fleet segments may be in balance with their fishing opportunities.

In the period 2010-2014 the SHI indicator values considered meaningful to assess balance or imbalance were increasing for 1 fleet segment, decreasing for 2 fleet segments, with no evident trend for 9 fleet segments, no conclusion for 1 fleet segment and null for 0.

Stocks at Risk Indicator (SAR)

Out of 97 fleet segments active in 2014, SAR indicator values were available for 92, of which 17 were exploiting 1 stock at risk, 9 were exploiting 2 stocks at risk, 5 were exploiting 3 stocks at risk, 2 were exploiting 4 stocks at risk, 3 was exploiting 5 stocks at risk, 2 were exploiting 6 stocks at risk.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate:

- 51 fleet segments may be in balance with their fishing opportunities;
- 38 fleet segments may not be in balance with their fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

There are 97 fleet segments in the French fleet. After clustering these amount to 48 segments.

The number of fleet segments for which the *ROFTA* indicator is available for 2014 is 48 and the number of segments for which trends are calculated is 46.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the RoFTA indicator values for the 48 French fleet segments indicate that:

- 7 fleet segments may not be in balance with their fishing opportunities;
- 40 fleet segments appear to be in balance with their fishing opportunities;
- 1 fleet segment appears to be not sufficiently profitable.

For 21 segments an increasing trend is assessed for *ROFTA* while a decreasing trend is observed for 25 segments.

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

The number of fleet segments for which the *CR/BER* indicator is available is 48 (46 of which show a trend).

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the CR/BER indicator values for the 48 French fleet segments indicate that:

- 7 fleet segments may not be in balance with their fishing opportunities;
- 41 fleet segments appear to be in balance with their fishing opportunities.

For 14 fleet segments an increasing trend is assessed for CR/BER while a decreasing trend is assessed for 17 fleet segments, with 15 segments showing no trend. For 2 segments there is insufficient data in the time series to assess a trend.

The Inactive Fleet Indicators

In 2015 no data has been provided on inactivity of the French fleet.

In 2014, 18 vessel length segments had inactive vessels (*AREA27 VL0010, AREA27 VL1012, AREA27 VL1218, AREA27 VL1824, AREA27 VL2440, AREA27 VL40XX, AREA37 VL0006, AREA37 VL0612, AREA37 VL1218, AREA37 VL1824, AREA37 VL2440, AREA37 VL40XX, OFR VL0010, OFR VL1012, OFR VL1218, OFR VL1824, OFR VL2440, OFR VL40XX*). In 2014 the total inactive French vessels accounted for 19% of the total number of vessels, 5% of the total GT and 13% of the total kW. The fleet segments with the highest levels of inactivity were the *OFR VL0010* group at 11% in vessel number terms (8% in kW), and the *Area 27 VL0010* group at 2% in vessel number terms (1% in kW).

The Vessel Use Indicator

The number of fleet segments for which the Vessel Use Indicator is available is 64 (with trends for 58).

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the VUR indicator values for the 64 French segments indicate that:

- 41 fleet segments may not be in balance with their fishing opportunities (34 segments below 12m and 7 above 12m);
- 23 fleet segments appear to be in balance with their fishing opportunities (6 segments below 12m and 17 above 12m).

For 16 segments an increasing trend is assessed for Vessel Use Indicator while a decreasing trend is observed for 14 segments, with 28 segments showing no trend and 6 segments not having enough data to assess a trend.

Data issues

No inactivity data has been provided for the reference year 2015.

Annex 3 of the AER 2016 show a number of data quality issues of medium severity relating to lack of data provided on tangible asset value, investments, various effort variables and fishing trips for a number of years.

4.6.9 Germany (DEU)

Sustainable Harvest Indicator (SHI)

Out of 19 fleet segments active in 2014, landings in value have been provided aggregated in 14 fleet segments and SHI indicator values were available for 13.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 5 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

The EWG notes that the 2014 SHI indicator for the 8 fleet segments that may be considered meaningful to assess balance or imbalance, accounted for 59% of the total value of the landings in 2014 provided by MS, and were as follows:

- 7 fleet segments may not be in balance with their fishing opportunities;
- 1 fleet segment may be in balance with their fishing opportunities.

In the period 2010-2014 the SHI indicator values considered meaningful to assess balance or imbalance were decreasing for 5 fleet segments and with no evident trend for 3 fleet segments.

Stocks at Risk Indicator (SAR)

Out of 19 fleet segments active in 2014, landings have been provided aggregated in 14 fleet segments and SAR indicator values were available for 14, of which 6 were exploiting 1 stock at risk and 1 was exploiting 3 stocks at risk.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate:

- 7 fleet segments may be in balance with their fishing opportunities;
- 7 fleet segments may not be in balance with their fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

In 2014, there are 19 fleet segments in the German fleet. After clustering these amount to 14 segments.

The number of fleet segments for which the *ROFTA* indicator is available for 2014 is 13 and the number of segments for which trends are calculated is 13.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the *RoFTA* indicator values for the 13 German fleet segments indicate that:

- 5 fleet segments may not be in balance with their fishing opportunities;
- 8 fleet segments appear to be in balance with their fishing opportunities.

For 8 segments an increasing trend is assessed for *ROFTA* while a decreasing trend is observed for 5 segments.

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

The number of fleet segments for which the *CR/BER* indicator is available is 13.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the *CR/BER* indicator values for the 13 German fleet segments indicate that:

- 5 fleet segments may not be in balance with their fishing opportunities;
- 8 fleet segments appear to be in balance with their fishing opportunities.

The Inactive Fleet Indicators

In 2015, 5 vessel length segments had inactive vessels (VL0010, VL1012, VL1218, VL1824, VL2440).

The total inactive German vessels account for 27.34% of the total number of vessels, 3.03% of the total GT and 7.10% of the total kW.

The fleet segment with the highest levels of inactivity is the VL0010 group at 25.58%, in number and 3.85% in kW.

The Vessel Use Indicator

The number of fleet segments for which the Vessel Use Indicator is available is 13.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the *VUR* indicator values for the 13 German fleet segments indicate that:

- 4 fleet segments (2 above 12 metres) may not be in balance with their fishing opportunities;
- 9 fleet segments (2 above 12 metres) appear to be in balance with their fishing opportunities.

For 1 segment an increasing trend is assessed for Vessel Use Indicator while no significance trend is observed for 12 segments.

Quality of data

According to the AER 2016 (Annex 3), there is no major data quality issues. Due to confidentiality issues, only capacity and weight of landings data are provided for pelagic fleet.

Consistency of indicators calculation with National Report

The analysis of the balance indicators follows DCF segmentation.

For confidentiality reasons, pelagic fleet (TM VL1824, TM VL2440 and TM VL40XX) is excluded from the analysis of the economic indicators.

4.6.10 Greece (GRC)

Sustainable Harvest Indicator (SHI)

Out of 15 active fleet segments in 2014, the SHI indicator was available for 5.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for all the 5 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

Stocks at Risk Indicator (SAR)

SAR indicator was available for all the 15 active fleet segments in 2014.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate that all the 15 fleet segments may be in balance with their fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

Greece did not provide any data in 2014 to calculate ROI or RoFTA and states in the Fleet Report that there is no new economic data for 2014 (the 2013 fleet report data is, therefore, the most recent).

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

Greece did not provide any data in 2014 for the calculation of CR/BER.

The Inactive Fleet Indicators

Greece did not provide any information on the number of inactive vessels in 2014.

The Vessel Use Indicator

Greece did not provide any information on the VUR.

4.6.11 Ireland (IRL)

Sustainable Harvest Indicator (SHI)

Out of 32 fleet segments active in 2014, landings in value have been provided aggregated in 31 fleet segments and SHI indicator values were available for 27.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 12 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

The EWG notes that the 2014 SHI indicator for the 15 fleet segments that may be considered meaningful to assess balance or imbalance, accounted for 90% of the total value of the landings in 2014 provided by MS, and were as follows:

- 6 fleet segments may not be in balance with their fishing opportunities;
- 9 fleet segments may be in balance with their fishing opportunities.

In the period 2010-2014 the SHI indicator values considered meaningful to assess balance or imbalance were increasing for 2 fleet segments, decreasing for 7 fleet segments, with no evident trend for 5 fleet segments and no conclusion for 1 fleet segment.

Stocks at Risk Indicator (SAR)

SAR indicator was available for all the 32 active fleet segments in 2014, of which 6 were exploiting 1 stock at risk, 6 were exploiting 2 stocks at risk and 1 was exploiting 4 stocks at risk.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate:

- 19 fleet segments may be in balance with their fishing opportunities;
- 13 fleet segments may not be in balance with their fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

There are 27 fleet segments in the Irish fleet.

The number of fleet segments for which the *ROFTA* indicator is available for 2014 is 14 and the number of segments for which trends are calculated is 12.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the RoFTA indicator values for the Irish fleet segments indicate that:

- 7 fleet segments may not be in balance with their fishing opportunities (2 segments with no information for 2014 included);
- 7 fleet segments appear to be in balance with their fishing opportunities.

For 8 segment(s) an increasing trend is assessed for *ROFTA* while a decreasing trend is observed for 4 segment (s).

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

The number of fleet segments for which the *CR/BER* indicator is available is 14.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the *CR/BER* indicator values for the Irish fleet segments indicate that:

- 7 fleet segments may not be in balance with their fishing opportunities;
- 7 fleet segments appear to be in balance with their fishing opportunities.

The Inactive Fleet Indicators

In 2015, 5 vessel length segments had inactive vessels (*VL0010*, *VL1012*, *VL1218*, *VL1824*, *VL2440*).

The total inactive Irish vessels account for 33.26% of the total number of vessels, and 14.6% of the total kW.

The fleet segments with the highest levels of inactivity are the *VL0010* group at 27.6% of the total number of vessels and 7.28% of the total kW, and the *VL1012* group at 4.25% of the total number of vessels and 3.55% of the total kW.

The Vessel Use Indicator

The number of fleet segments for which the Vessel Use Indicator is available is 19.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the *VUR* indicator values for the Irish segments indicate that:

- 9 fleet segments may not be in balance with their fishing opportunities;
- 8 fleet segments appear to be in balance with their fishing opportunities.

For 2 segments an increasing trend is assessed for Vessel Use Indicator while a decreasing trend is observed for 3 segment(s).

Data issues

Values and figures differ from previous reports as more survey returns changed the total national estimates. The survey target rates, however, differ between fleet segments.

Consistency of indicators calculation with National Report

Ireland delivered data on value of landings for the AER 2016 meeting and the JRC database by follow up the landing declarations of those vessels returning the questionnaire of the survey. For the National Report another approach was chosen using all landing declarations. Therefore, some of the indicators in the balance indicator table differ from the indicators in the National Report.

4.6.12 Italy (ITA)

Sustainable Harvest Indicator (SHI)

Out of 32 fleet segments active in 2014, landings in value have been provided aggregated in 23 fleet segments and SHI indicator values were available for 20.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 13 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

The EWG notes that the 2014 SHI indicator for the 7 fleet segments that may be considered meaningful to assess balance or imbalance, accounted for 10% of the total value of the landings in 2014 provided by MS, and were as follows:

- 6 fleet segments may not be in balance with their fishing opportunities;
- 1 fleet segment may be in balance with their fishing opportunities.

In the period 2010-2014 the SHI indicator values considered meaningful to assess balance or imbalance were decreasing for 6 fleet segments and flat/null for 1 fleet segment.

Stocks at Risk Indicator (SAR)

Out of 32 fleet segments active in 2014, landings have been provided aggregated in 23 fleet segments and SAR indicator values were available for 23.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate that all 23 fleet segments may be in balance with their fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

There are 54 fleet segments in the Italian fleet. After clustering these amount to 23 segments.

The number of fleet segments for which the *ROFTA* indicator is available for 2014 is 23 and the number of segments for which trends are calculated is 22.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the RoFTA indicator values for the 23 Italian fleet segments indicate that:

- 5 fleet segments may not be in balance with their fishing opportunities;
- 16 fleet segments appear to be in balance with their fishing opportunities;
- 2 fleet segments report insufficient profitability.

For 11 segments an increasing trend is assessed for *ROFTA* while a decreasing trend is observed for 11 segments.

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

The number of fleet segments for which the *CR/BER* indicator is available is 23.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the CR/BER indicator values for the 23 Italian fleet segments indicate that:

- 5 fleet segments may not be in balance with their fishing opportunities;
- 18 fleet segments appear to be in balance with their fishing opportunities.

For 7 segments an increasing trend is assessed for *CR/BER* while a decreasing trend is observed for 8 segments. 7 segments report no trend and 1 makes no report.

The Inactive Fleet Indicators

In 2015, 7 vessel length segments had inactive vessels (*VL0006*, *VL0612*, *VL1218*, *VL1824*, *VL2440*, *VL40XX*, *VL40XXIWE*).

The total inactive Italian vessels account for 8.9% of the total number of vessels, 5.7% of the total GT and 6.0% of the total kW.

The fleet segments with the highest levels of inactivity are the *VL1218* group at 9.2%, and the *VL0612* group at 5.1%.

The Vessel Use Indicator

The number of fleet segments for which the Vessel Use Indicator is available is 23.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the VUR indicator values for the 23 Italian segments indicate that:

- 17 fleet segments may not be in balance with their fishing opportunities;
- 6 fleet segments appear to be in balance with their fishing opportunities.

For 3 segments an increasing trend is assessed for the Vessel Use Indicator while a decreasing trend is observed for 4 segment(s). 15 segments report no trend.

Quality and Consistency Considerations

Annex 3 of the Annual Economic Report 2016 reports four quality issues of low severity in the Italian data:

- The data for total employment and total number of vessels variables are not rounded to remove decimals;
- Some vessels are misallocated incorrectly to the *VL0612* and *VL40XX* fleet segments;
- The fleet segment *DTS40XX* for 2009 reports more than 365 fishing days per vessel per year;
- For 2013 and 2014 some fleet segments are reported to have made more fishing trips than the number of days spent at sea.

4.6.13 Latvia (LVA)

Sustainable Harvest Indicator (SHI)

Out of 3 active fleet segments in 2014, the SHI indicator was available for 2.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for the 2 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

Stocks at Risk Indicator (SAR)

SAR indicator was available for all the 3 active fleet segments in 2014, of which 2 were exploiting 1 stock at risk.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate:

- 1 fleet segment may be in balance with their fishing opportunities;
- 2 fleet segments may not be in balance with their fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

There are 4 fleet segments in the Cypriot fleet. After clustering these amount to 3 segments in 2014.

The number of fleet segments for which the *ROFTA* indicator is available for 2014 is 3 and the number of segments for which trends are calculated is 3.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the RoFTA indicator values for the 3 Latvian fleet segments indicate that:

- 1 fleet segment may not be in balance with its fishing opportunities;
- 2 fleet segments appear to be in balance with their fishing opportunities.

For 2 segments an increasing trend is assessed for ROFTA while a decreasing trend is observed for 1 segment.

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

The number of fleet segments for which the CR/BER indicator is available is 3.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the CR/BER indicator values for the 3 Latvian fleet segments indicate that:

- 1 fleet segment may not be in balance with its fishing opportunities;
- 2 fleet segments appear to be in balance with their fishing opportunities.

The Inactive Fleet Indicators

In 2015, 1 vessel length segment had inactive vessels (VL0010).

The total inactive Latvian vessels account for 24% of the total number of vessels, 1.51% of the total GT and 3.31% of the total kW.

The Vessel Use Indicator

The number of fleet segments for which the Vessel Use Indicator is available is 3.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the VUR indicator values for the 3 Latvian fleet segments indicate that:

- 2 fleet segments (1 above 12 metres) may not be in balance with their fishing opportunities;
- 1 fleet segment (0 above 12 metres) appears to be in balance with its fishing opportunities.

No trend is observed for the 3 fleet segments

Quality of data

According to the AER 2016 (Annex 3), there is no major data quality issues.

The data for the distant-water fleet (segment VL40XX) operating in the Atlantic area 27 (NEAFC, NAFO) and area 34 (CECAF) have not been submitted due to data confidentiality.

Consistency of indicator calculation with National Report

Vessels over 40 meters operated in the Atlantic (area 27 and 34) were excluded from the analysis due to the limited number of analysed vessels and respective data confidentiality.

RoFTA indicator for the PGP0010 segment appears to be too high during the period from 2012 to 2014. National Report mentioned that "the high values of ROI in the segment can be explained with a low fleet capital asset value due to low residual values of capital and a long service life of vessels and vessel equipment".

4.6.14 Lithuania (LTU)

Sustainable Harvest Indicator (SHI)

Out of 9 active fleet segments in 2014, the SHI indicator was available for 7.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 4 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

The EWG notes that the 2014 SHI indicator for the 3 fleet segments that may be considered meaningful to assess balance or imbalance, accounted for 5% of the total value of the landings in 2014 provided by MS, and were as follows:

- 2 fleet segments may not be in balance with their fishing opportunities;
- 1 fleet segment may be in balance with their fishing opportunities.

In the period 2010-2014 the SHI indicator values considered meaningful to assess balance or imbalance were no evident trend for 2 fleet segments and no conclusion for 1 fleet segment.

Stocks at Risk Indicator (SAR)

SAR indicator was available for all the 9 active fleet segments in 2014, of which 2 were exploiting 2 stocks at risk.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate:

- 7 fleet segments may be in balance with their fishing opportunities;
- 2 fleet segments may not be in balance with their fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

There are 5 fleet segments in the Lithuanian fleet.

The number of fleet segments for which the *RoFTA* indicator is available for 2014 is 5 and the number of segments for which trends are calculated is 5.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the ROI indicator values for the Lithuanian fleet segments indicate that:

- 1 fleet segment may not be in balance with their fishing opportunities;
- 2 fleet segments appear to be in balance with their fishing opportunities.

For 3 segments an increasing trend is assessed for *RoFTA* while a decreasing trend is observed for 2 segments.

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

The number of fleet segments for which the *CR/BER* indicator is available is 5.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the CR/BER indicator values for the Lithuanian fleet segments indicate that:

- 2 fleet segments may not be in balance with their fishing opportunities;
- 3 fleet segments appear to be in balance with their fishing opportunities.

The Inactive Fleet Indicators

In 2015, 5 vessel length segments had inactive vessels (*VL0010*, *VL1012*, *VL1218*, *VL1824*, *VL2440*). The fleet segments with the highest levels of inactivity are the *VL0010* group at 23.49% of total number of vessels and 1.03% of total kW, and the *VL2440* group at 2.01% of total number of vessels and 0.25% of total kW.

The Vessel Use Indicator

The number of fleet segments for which the Vessel Use Indicator is available is 4.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the VUR indicator values for the Lithuanian segments indicate that:

- 1 fleet segment may not be in balance with their fishing opportunities;
- 3 fleet segment appear to be in balance with their fishing opportunities.

For 2 segments an increasing trend is assessed for Vessel Use Indicator while a decreasing trend is observed for 1 segment.

Consistency of indicator calculation with National Report

In the National Report Lithuania presents results for *ROI* while in the balance indicator table *RoFTA* indicator values are provided.

4.6.15 Malta (MLT)

Sustainable Harvest Indicator (SHI)

Out of 20 active fleet segments in 2014, the SHI indicator was available for 15.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 13 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

The EWG notes that the 2014 SHI indicator for the 2 fleet segments that may be considered meaningful to assess balance or imbalance, accounted for 13% of the total value of the landings in 2014 provided by MS, and were as follows:

- 1 fleet segment may not be in balance with their fishing opportunities;
- 1 fleet segment may be in balance with their fishing opportunities.

In the period 2010-2014 the SHI indicator values considered meaningful to assess balance or imbalance were decreasing for 1 fleet segment and flat/null for 1 fleet segment.

Stocks at Risk Indicator (SAR)

SAR indicator was available for 20 of the 30 active fleet segments in 2014, of which none were exploiting stocks at risk.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate:

- 30 fleet segments may be in balance with their fishing opportunities;

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

There are 22 fleet segments in the Maltese fleet. After clustering these amount to 20 segments.

The number of fleet segments for which the *ROFTA* indicator is available for 2014 is 20 and the number of segments for which trends are calculated is 16.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the RoFTA indicator values for the 20 Maltese fleet segments indicate that:

- 15 fleet segments may not be in balance with their fishing opportunities;
- 4 fleet segments appear to be in balance with their fishing opportunities;
- 1 fleet segment appears to be not sufficiently profitable.

For 11 segments an increasing trend is assessed for *ROFTA* while a decreasing trend is observed for 5 segments.

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

The number of fleet segments for which the *CR/BER* indicator is available is 20 with 16 showing trends.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the *CR/BER* indicator values for the 20 Maltese fleet segments indicate that:

- 16 fleet segments may not be in balance with their fishing opportunities;
- 4 fleet segments appear to be in balance with their fishing opportunities.

For 11 segments an increasing trend is assessed for *CR/BER* while a decreasing trend is observed for 4 segments with one segment showing no trend.

The Inactive Fleet Indicators

In 2015, 5 vessel length segments had inactive vessels (*AREA37 VL0006*, *AREA37 VL0612*, *AREA37 VL1218*, *AREA37 VL1824*, *AREA37 VL2440*).

The total inactive Maltese vessels account for 24% of the total number of vessels, 30% of the total GT and 23% of the total kW.

The fleet segments with the highest levels of inactivity are the *VL0612* group at 10% in vessel numbers (10% in kW), and the *VL0006* group at 13% in vessel numbers (4% in kW).

The Vessel Use Indicator

The number of fleet segments for which the Vessel Use Indicator is available is 20 with 16 showing trends.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the VUR indicator values for the 20 Maltese segments indicate that:

- 1 fleet segment may not be in balance with their fishing opportunities (0 segments below 12m and 1 above 12m);
- 19 fleet segments appear to be in balance with their fishing opportunities (11 segments below 12m and 8 above 12m).

For 2 segments an increasing trend is assessed for Vessel Use Indicator while a decreasing trend is observed for 2 segments with 11 segments showing a flat/null trend and one segment showing no trend.

4.6.16 Netherlands (NLD)

Sustainable Harvest Indicator (SHI)

Out of 28 fleet segments active in 2014, landings in value have been provided aggregated in 14 fleet segments and SHI indicator values were available for all 14.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 5 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

The EWG notes that the 2014 SHI indicator for the 9 fleet segments that may be considered meaningful to assess balance or imbalance, accounted for 79% of the total value of the landings in 2014 provided by MS, and were as follows:

- 9 fleet segments may not be in balance with their fishing opportunities.

In the period 2010-2014 the SHI indicator values considered meaningful to assess balance or imbalance were decreasing for 4 fleet segments and with no evident trend for 5 fleet segments.

Stocks at Risk Indicator (SAR)

Out of 28 fleet segments active in 2014, landings have been provided aggregated in 14 fleet segments and SAR indicator values were available for all 14, of which 4 were exploiting 1 stock at risk, 2 was exploiting 2 stocks at risk.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate:

- 8 fleet segments may be in balance with their fishing opportunities;
- fleet segments may not be in balance with their fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

In 2014, there are 28 fleet segments in the Dutch fleet. After clustering these amount to 14 segments.

Both ROI and RoFTA could be calculated for the Dutch fleet, therefore the ROI indicator is analysed. The number of fleet segments for which the ROI indicator is available for 2014 is 14 and the number of segments for which trends are calculated is 14.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the ROI indicator values for the 14 Dutch fleet segments which may be considered meaningful to assess balance or imbalance indicate that:

- 3 fleet segments may not be in balance with their fishing opportunities;
- 11 fleet segments appear to be in balance with their fishing opportunities.

For 13 segments an increasing trend is assessed for ROI while a decreasing trend is observed for 1 segment.

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

In 2014, the number of fleet segments for which the CR/BER indicator is available is 14.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the CR/BER indicator values for the 14 Dutch fleet segments indicate that:

- 3 fleet segments may not be in balance with their fishing opportunities;
- 11 fleet segments appear to be in balance with their fishing opportunities.

The Inactive Fleet Indicators

In 2015, 6 vessel length segments had inactive vessels (VL0010, VL1012, VL1218, VL1824, VL2440, VL40XX).

The total inactive Dutch vessels account for 28.28% of the total number of vessels, 12.10% of the total GT and 13.58% of the total kW.

The fleet segment with the highest levels of inactivity is the VL0010 group at 18.25% in number and 2.08% in kW.

The Vessel Use Indicator

The number of fleet segments for which the Vessel Use Indicator is available is 14.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the VUR indicator values for the 14 Dutch segments indicate that:

- 3 fleet segments (2 above 12 metres) may not be in balance with their fishing opportunities;
- 11 fleet segments (2 above 12 metres) appear to be in balance with their fishing opportunities.

For 2 segments an increasing trend is assessed for Vessel Use Indicator while no trend is observed for 12 segments.

Quality of data

According to the AER 2016 (Annex 3), there is no major data quality issues.

According to the AER 2016 (p. 341): *"Some of the smaller segments (DRB 0-10 m, DTS 0-10 m and TBB 12-18 m) variation in activity levels was high resulting in high uncertainty in the economic indicators estimates and large fluctuations from year to year... Therefore, these figures should be viewed as indicative for the size of the sector rather than describing the exact trends. Currently work is being carried out to improve the estimation procedures".*

Consistency of indicator calculation with National Report

MS provides economic and technical indicators in the fleet report according to a segmentation that is different to the DCF fleet segmentations; in Dutch Fleet Report, the fishing fleet is segmented in four groups (beam trawlers <24 metres, beam trawlers >24 metres, demersal trawlers and pelagic fleet) instead of the 14 active fleet segments of DCF fleet segmentations.

4.6.17 Poland (POL)

Sustainable Harvest Indicator (SHI)

Out of 16 fleet segments active in 2014, landings in value have been provided aggregated in 9 fleet segments and SHI indicator values were available for 7.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 4 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

The EWG notes that the 2014 SHI indicator for the 3 fleet segments that may be considered meaningful to assess balance or imbalance, accounted for 56% of the total value of the landings in 2014 provided by MS, and were as follows:

- 3 fleet segments may not be in balance with their fishing opportunities.

In the period 2010-2014 the SHI indicator values considered meaningful to assess balance or imbalance were no evident trend for the 2 fleet segments and no conclusion for 1 fleet segment.

Stocks at Risk Indicator (SAR)

Out of 16 fleet segments active in 2014, landings have been provided aggregated in 9 fleet segments and SAR indicator values were available for 9, of which 3 were exploiting 1 stock at risk and 1 was exploiting 2 stocks at risk.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate:

- 5 fleet segments may be in balance with their fishing opportunities;
- 4 fleet segments may not be in balance with their fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

There are 45 fleet segments in the Polish fleet. After clustering these amount to 7 segments.

The number of fleet segments for which the *ROFTA* indicator is available for 2014 is 7 and the number of segments for which trends are calculated is 7.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the RoFTA indicator values for the 2 Polish fleet segments indicate that:

- 3 fleet segment may not be in balance with its fishing opportunities;
- 3 fleet segment appears to be in balance with its fishing opportunities;
- 1 fleet segment appears to be insufficiently profitable.

For the 6 segments where data are available a decreasing trend for *ROFTA* is observed.

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

The number of fleet segments for which the *CR/BER* indicator is available is 2.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the CR/BER indicator values for the 2 Polish fleet segments indicate that:

- 1 fleet segment may not be in balance with its fishing opportunities;
- 1 fleet segment appears to be in balance with its fishing opportunities.

The Inactive Fleet Indicators

In 2015, 5 vessel length segments had inactive vessels (*VL0010, VL1012, VL1218, VL1824, VL2440*).

The total inactive Polish vessels account for 7.8% of the total number of vessels, 2.8% of the total GT and 5.0% of the total kW.

The fleet segments with the highest levels of inactivity are the *VL1012* group at 1.8%, and the *VL1218* group at 1.6%.

The Vessel Use Indicator

The number of fleet segments for which the Vessel Use Indicator is available is 3.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the VUR indicator values for the 2 Polish segments indicate that:

- 2 fleet segments may not be in balance with their fishing opportunities;
- 0 fleet segments appear to be in balance with their fishing opportunities.

For the 1 segment for which data are available no trend is observed in the Vessel Use Indicator.

Quality and Consistency Considerations

Annex 3 of the Annual Economic Report 2016 reports that Unpaid Labour data are not provided for the period 2008-10 and that there is a small mismatch of low severity between the number of species reported in the weight and value of landings for the Passive Gears fleet, PG0010, in 2010.

4.6.18 Portugal (PRT)

Sustainable Harvest Indicator (SHI)

Out of 54 fleet segments active in 2014, landings in value have been provided aggregated in 52 fleet segments and SHI indicator values were available for 48.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 43 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

The EWG notes that the 2014 SHI indicator for the 5 fleet segments that may be considered meaningful to assess balance or imbalance, accounted for 16% of the total value of the landings in 2014 provided by MS, and were as follows:

- 3 fleet segments may not be in balance with their fishing opportunities;
- 2 fleet segment may be in balance with their fishing opportunities.

In the period 2010-2014 the SHI indicator values considered meaningful to assess balance or imbalance were increasing for 1 fleet segment, decreasing for 3 fleet segments and with no evident trend for 1 fleet segment.

Stocks at Risk Indicator (SAR)

Out of 54 fleet segments active in 2014, landings have been provided aggregated in 52 fleet segments and SAR indicator values were available for 52 fleet segments, of which 17 were exploiting 1 stock at risk, 5 were exploiting 2 stocks at risk, 1 was exploiting 3 stocks at risk and 1 was exploiting 4 stocks at risk.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate:

- 28 fleet segments may be in balance with their fishing opportunities;
- 24 fleet segments may not be in balance with their fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

There were 54 fleet segments in the Portuguese fleet in 2014. After clustering these amount to 52 segments.

The number of fleet segments for which the *ROFTA* indicator is available for 2014 is 52. According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the RoFTA indicator values for the Portuguese fleet segments indicate that:

- 4 fleet segments may not be in balance with their fishing opportunities;
- 41 fleet segments appear to be in balance with their fishing opportunities.

Seven fleet segments were classified as not sufficiently profitable when using 5 year average Portuguese government bond return. However, when using the 2014 interest rate as a reference 6 of those classified as not sufficiently profitable would be classified as fleets in balance.

32 fleet segments showed an increasing trend for *ROFTA* while a decreasing trend is observed for 19 segments.

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

The number of fleet segments for which the *CR/BER* indicator is available is 52.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the CR/BER indicator values for the UK fleet segments indicate that:

- 46 fleet segments may not be in balance with their fishing opportunities;
- 6 fleet segments appear to be in balance with their fishing opportunities.

The Inactive Fleet Indicators

In 2015, 6 vessel length segments had inactive vessels (*VL0010*, *VL1012*, *VL1218*, *VL1824*, *VL2440*). The total inactive vessels account for 4% of the total number of vessels, and under 2% of the total GT and the total kW. The fleet segments with the highest levels of inactivity are the *VL0010* group at 4%, while in the other length glasses the level of inactivity was negligible. *VL40+* showed highest inactivity in terms of number of kW at 3%. All length classes show a decreasing trend in terms of kW and three in terms of number of vessels with one class without a trend.

The Vessel Use Indicator

The number of fleet segments for which the Vessel Use Indicator is available is 16. According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the VUR indicator values for the UK segments indicate that:

- 28 fleet segments may not be in balance with their fishing opportunities;
- 15 fleet segments appear to be in balance with their fishing opportunities.

For 3 segments an increasing trend is assessed for Vessel Use Indicator.

4.6.19 Romania (ROU)

Sustainable Harvest Indicator (SHI)

Out of 5 active fleet segments in 2014, the SHI indicator was available for 5.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 3 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

The EWG notes that the 2014 SHI indicator for the 2 fleet segments that may be considered meaningful to assess balance or imbalance, accounted for 25% of the total value of the landings in 2014 provided by MS, and were as follows:

- 2 fleet segments may not be in balance with their fishing opportunities.

In the period 2010-2014 the SHI indicator values considered meaningful to assess balance or imbalance were increasing for 2 fleet segments.

Stocks at Risk Indicator (SAR)

SAR indicator was available for all the 5 active fleet segments in 2014, of which 2 were exploiting 1 stock at risk.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate:

- 3 fleet segments may be in balance with their fishing opportunities;
- 2 fleet segments may not be in balance with their fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

There are 6 fleet segments in the Romanian fleet.

The number of fleet segments for which the *ROI* indicator is available for 2014 is 4 and the number of segments for which trends are calculated is 4.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the ROI indicator values for the Romanian fleet segments, indicate that:

- 0 fleet segments may not be in balance with their fishing opportunities;
- 1 fleet segments appear to be in balance with their fishing opportunities.

For 4 segments an increasing trend is assessed for *ROI* while a decreasing trend is observed for 0 segment.

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

The number of fleet segments for which the *CR/BER* indicator is available is 4.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the CR/BER indicator values for the Romanian fleet segments, indicate that:

- 1 fleet segments may not be in balance with their fishing opportunities;
- 3 fleet segments appear to be in balance with their fishing opportunities.

The Inactive Fleet Indicators

In 2015, 2 vessel length segment had inactive vessels (*VL0006*, *VL0612*).

The total inactive Romanian vessels account for less than 15.9% of the total number of vessels and for 3.42% of total kW.

The fleet segments with the highest levels of inactivity are the *VL0612* group at 13.25% of the total number of vessels and 3.25% of the total kW, and the *VL0006* group at 2.65% of the total number of vessels and 0.17% of the total kW.

The Vessel Use Indicator

The number of fleet segments for which the Vessel Use Indicator is available is 4.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the VUR indicator values for the Romanian segments indicate that:

- 3 fleet segments may not be in balance with their fishing opportunities;
- 1 fleet segments appear to be in balance with their fishing opportunities.

For 0 segment an increasing trend is assessed for Vessel Use Indicator while a decreasing trend is observed for 2 segments.

Data Issues

Romania needs to improve its data collection procedure and the fishing sector so far only delivers aggregated data instead of individual data within a survey.

4.6.20 Slovenia (SVN)

Sustainable Harvest Indicator (SHI)

Out of 14 fleet segments active in 2014, landings in value have been provided aggregated in 4 fleet segments and SHI indicator values were available for all 4.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 3 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

The EWG notes that the 2014 SHI indicator for 1 fleet segment that may be considered meaningful to assess balance or imbalance, accounted for 20% of the total value of the landings in 2014 provided by MS, and were as follows:

- 1 fleet segment may not be in balance with their fishing opportunities.

In the period 2010-2014 the SHI indicator value considered meaningful to assess balance or imbalance showed no evident trend for 1 fleet segment.

Stocks at Risk Indicator (SAR)

Out of 14 fleet segments active in 2014, landings in value have been provided aggregated in 4 fleet segments and SAR indicator values were available for all 4.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate that all the 4 fleet segments may be in balance with their fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

There are 21 fleet segments in the Slovenian fleet. After clustering 13 segments remain (some with very few vessels).

The number of fleet segments for which the *ROFTA* indicator is available for 2014 is 4 and the number of segments for which trends are calculated is 4.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the RoFTA indicator values for the Slovenian fleet segments indicate that:

- 0 fleet segments may not be in balance with their fishing opportunities;
- 4 fleet segments appear to be in balance with their fishing opportunities.

For 1 segment an increasing trend is assessed for *ROFTA* while a decreasing trend is observed for 3 segments.

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

The number of fleet segments for which the *CR/BER* indicator is available is 4.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the CR/BER indicator values for the Slovenian fleet segments indicate that:

- 0 fleet segments may not be in balance with their fishing opportunities;
- 4 fleet segments appear to be in balance with their fishing opportunities.

The Inactive Fleet Indicators

In 2015, 4 vessel length segment had inactive vessels (*VL0006*, *VL0612*, *VL1218*, *VL1824*).

The total inactive Slovenian vessels account for less than 47.93% of the total number of vessels and for 34.9% of total kW.

The fleet segments with the highest levels of inactivity are the *VL0006* group at 27.22% of the total number of vessels and 4.89% of the total kW, and the *VL0612* group at 18.34% of the total number of vessels and 18.9% of the total kW.

The Vessel Use Indicator

The number of fleet segments for which the Vessel Use Indicator is available is 4.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the VUR indicator values for the Slovenian segments, indicate that:

- 3 fleet segments may not be in balance with their fishing opportunities;
- 1 fleet segments appear to be in balance with their fishing opportunities.

For 1 segment an increasing trend is assessed for Vessel Use Indicator while a decreasing trend is observed for 1 segment.

Consistency of indicators calculation with National Report

Slovenia reported ROI results in the National Report while in the balance indicator table information on RoFTA is provided.

4.6.21 Spain (ESP)

Sustainable Harvest Indicator (SHI)

Out of 89 active fleet segments in 2014, the SHI indicator was available for 78.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 60 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

The EWG notes that the 2014 SHI indicator for the 18 fleet segments that may be considered meaningful to assess balance or imbalance, accounted for 21% of the total value of the landings in 2014 provided by MS, and were as follows:

- 12 fleet segments may not be in balance with their fishing opportunities;
- 6 fleet segments may be in balance with their fishing opportunities.

In the period 2010-2014 the SHI indicator values considered meaningful to assess balance or imbalance were increasing for 2 fleet segments, decreasing for 2 fleet segments, with no evident trend for 5 fleet segments, flat/null for 1 fleet segment and no conclusion for 8 fleet segments.

Stocks at Risk Indicator (SAR)

SAR indicator was available for all the 89 active fleet segments in 2014, of which 20 were exploiting 1 stock at risk, 5 were exploiting 2 stocks at risk, 3 were exploiting 3 stocks at risk, 3 were exploiting 4 stocks at risk and 1 was exploiting 6 stocks at risk.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate:

- 57 fleet segments may be in balance with their fishing opportunities;
- 32 fleet segments may not be in balance with their fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

There are 87 active fleet segments in the Spanish fleet. After clustering these amount to 58 segments.

The number of fleet segments for which the *ROFTA* indicator is available for 2014 is 50 and the number of segments for which trends are calculated is 30.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the *RoFTA* indicator values for the 50 Spanish fleet segments indicate that:

- 18 fleet segments may not be in balance with their fishing opportunities;
- 31 fleet segments appear to be in balance with their fishing opportunities.

For 21 segments an increasing trend is assessed for *ROFTA* while a decreasing trend is observed for 9 segments.

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

The number of fleet segments for which the *CR/BER* indicator is available is 50.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the *CR/BER* indicator values for the 50 Spanish fleet segments indicate that:

- 18 fleet segments may not be in balance with their fishing opportunities;
- 32 fleet segments appear to be in balance with their fishing opportunities.

The Inactive Fleet Indicators

In 2015, 6 vessel length segments had inactive vessels (VL0010, VL1012, VL1218, VL1824, VL2440 and VL40XX)

The total inactive Spanish vessels account for 12% of the total number of vessels, 5.7% of the total GT and 6.3% of the total kW.

The fleet segments with the highest levels of inactivity are the VL0010 group at 10.6% in number and 1.8% in kW, and the VL2440 group at 0.4% in number and 2.2% in kW.

The Vessel Use Indicator

The number of fleet segments for which the Vessel Use Indicator is available is 60.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the *VUR* indicator values for the 60 Spanish segments indicate that:

- 12 fleet segments may not be in balance with their fishing opportunities;
- 48 fleet segments appear to be in balance with their fishing opportunities.

For 9 segments an increasing trend is assessed for Vessel Use Indicator while a decreasing trend is observed for 1 segment and no trend for 31 segments.

Quality of data

According to the AER 2016 (Annex 3) there are few data quality issues and they mainly rely on some differences greater than 5% for some fleet segments and years between landing income and landings value (Low/medium severity) plus issues with Effort data (medium severity).

However, Spanish data made available for the EWG 16-09 group show some inconsistencies in time series indicators for some fleets, suggesting that clusters may not be stable over the period. In addition, ROFTA values seem inconsistent for some fleet segments suggesting some issues in capital value and cost data, in particular large scale fleet segments.

4.6.22 Sweden (SWE)

Sustainable Harvest Indicator (SHI)

Out of 28 fleet segments active in 2014, landings in value have been provided aggregated in 26 fleet segments and SHI indicator values were available for all 26.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 2 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

The EWG notes that the 2014 SHI indicator for the 24 fleet segments that may be considered meaningful to assess balance or imbalance, accounted for 99% of the total value of the landings in 2014 provided by MS, and were as follows:

- 8 fleet segments may not be in balance with their fishing opportunities.
- 16 fleet segments may be in balance with their fishing opportunities.

In the period 2010-2014 the SHI indicator values considered meaningful to assess balance or imbalance were increasing for 3 fleet segments, decreasing for 5 fleet segments, with no evident trend for 12 fleet segments and no conclusion for 4 fleet segments.

Stocks at Risk Indicator (SAR)

SAR indicator was available for all the 28 active fleet segments in 2014, of which 8 were exploiting 1 stock at risk and 9 were exploiting 2 stocks at risk.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate:

- 11 fleet segments may be in balance with their fishing opportunities.
- 17 fleet segments may not be in balance with their fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

There are 28 fleet segments in the Swedish fleet. After clustering these amount to 7 segments.

The number of fleet segments for which the *ROFTA* indicator is available for 2014 is 7 and the number of segments for which trends are calculated is 7.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the RoFTA indicator values for the 7 Swedish fleet segments indicate that:

- 3 fleet segments may not be in balance with their fishing opportunities;

- 3 fleet segments appear to be in balance with their fishing opportunities.

For 2 segments an increasing trend is assessed for *ROFTA* while a decreasing trend is observed for 5 segments.

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

The number of fleet segments for which the *CR/BER* indicator is available is 7.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the *CR/BER* indicator values for the 7 Swedish fleet segments indicate that:

- 3 fleet segments may not be in balance with their fishing opportunities;
- 4 fleet segments appear to be in balance with their fishing opportunities.

The Inactive Fleet Indicators

In 2015, 5 vessel length segments had inactive vessels (*VL0010*, *VL1012*, *VL1218*, *VL1824* and *VL2440*).

The total inactive Swedish vessels account for 23% of the total number of vessels, 9% of the total GT and 12% of the total kW.

The fleet segment with the highest levels of inactivity is the *VL0010* group at 19% in number and 6% in kW.

The Vessel Use Indicator

The number of fleet segments for which the Vessel Use Indicator is available is 7.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the *VUR* indicator values for the 7 Swedish segments indicate that:

- 5 fleet segments (2 above 12 meters) may not be in balance with their fishing opportunities;
- 2 fleet segments (2 above 12 meters) appear to be in balance with their fishing opportunities.

No trend is observed for the 7 segments.

Data quality

No data quality issue of medium or high severity is reported in the 2016 AER for Sweden. The segmentation used for the calculation of economic indicators in the National Fleet Report provided by Sweden is provided at a high level of aggregation, distinguishing only between passive and active gears.

4.6.23 United Kingdom (GBR)

Sustainable Harvest Indicator (SHI)

Out of 45 active fleet segments in 2014, the *SHI* indicator was available for 40.

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 23 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

The EWG notes that the 2014 SHI indicator for the 17 fleet segments that may be considered meaningful to assess balance or imbalance, accounted for 73% of the total value of the landings in 2014 provided by MS, and were as follows:

- 10 fleet segments may not be in balance with their fishing opportunities;
- 7 fleet segments may be in balance with their fishing opportunities.

In the period 2010-2014 the SHI indicator values considered meaningful to assess balance or imbalance were increasing for 4 fleet segments, decreasing for 5 fleet segments, with no evident trend for 7 fleet segments and no conclusion for 1 fleet segment.

Stocks at Risk Indicator (SAR)

SAR indicator was available for all the 45 active fleet segments in 2014, of which 6 were exploiting 1 stock at risk, 1 was exploiting 3 stocks at risk, 1 was exploiting 7 stocks at risk and 1 was exploiting 10 stocks at risk.

According to the criteria in the 2014 Balance Indicator Guidelines, EWG 16-09 notes that the 2014 SAR indicator values indicate:

- 37 fleet segments may be in balance with their fishing opportunities;
- 9 fleet segments may not be in balance with their fishing opportunities.

Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)

There were 45 fleet segments in the UK fleet in 2014. After clustering these amount to 30 segments.

The number of fleet segments for which the *ROFTA* indicator is available for 2014 is 30. According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the RoFTA indicator values for the UK fleet segments indicate that:

- 6 fleet segments may not be in balance with their fishing opportunities;
- 23 fleet segments appear to be in balance with their fishing opportunities.

17 fleet segments showed an increasing trend for *ROFTA* while a decreasing trend is observed for 11 segments.

Ratio between Current Revenue and Break-Even Revenue (CR/BER)

The number of fleet segments for which the *CR/BER* indicator is available is 30.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the CR/BER indicator values for the UK fleet segments indicate that:

- 24 fleet segments may not be in balance with their fishing opportunities;
- 6 fleet segments appear to be in balance with their fishing opportunities.

The Inactive Fleet Indicators

In 2015, 6 vessel length segments had inactive vessels (*VL0010*, *VL1012*, *VL1218*, *VL1824*, *VL2440*, *VL40+*). The total inactive UK vessels account for 31% of the total number of vessels, 9% of the total GT and 15% of the total kW.

The fleet segments with the highest levels of inactivity are the *VL0010* group at 28%, while *VL40+* showed highest inactivity in terms of number of kW at 3%.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the Inactive Fleet Indicators values for the UK fleet segments indicate that:

- 1 fleet segment may not be in balance with their fishing opportunities;
- 5 fleet segments appear to be in balance with their fishing opportunities.

The Vessel Use Indicator

The number of fleet segments for which the Vessel Use Indicator is available is 30.

According to the criteria in the 2014 Balance Indicator Guidelines EWG 16-09 notes that the VUR indicator values for the UK segments indicate that:

- 19 fleet segments may not be in balance with their fishing opportunities;
- 11 fleet segments appear to be in balance with their fishing opportunities.

For 21 segments an increasing trend is assessed for Vessel Use Indicator.

4.7 Overview of Balance Indicator Trends

There were no clear signals in indicator trends in 2010-2014 for Areas 27 and 37. Improving trends in indicator values were found for the majority of fleet segments for which the ROI and/or RoFTA could be calculated, but worsening trends were evident for the CR/BER indicator. Analyses of technical indicators showed that indicator trends in 2010-2014 were improving for the inactive vessel indicator, but worsening for the VUR indicator. Improving trends in indicator values were found for the majority of fleet segments for which the SHI could be calculated. EWG 16-09 considered a trend analysis based on SAR indicator values to be too unreliable.

Table 4.7.1 Indicator trends at supra-region level. The percentage of fleet segments with improved (green font), worsened (red font) and no trends (black font) in Area 27 (Northeast Atlantic), Area 37 (Mediterranean and Black Sea), OFR (Other Fishing Regions) over the period 2010-2014 are shown.

Supra-region	Trend	Indicators						
		Inactive vessels	VUR	VUR220	SHI	CR/BER	RoFTA	ROI
AREA27	increasing	10	25	10	49	94	121	48
AREA27	decreasing	20	15	13	105	64	82	20
AREA27	no trend	16	105	199	106	49	4	1
AREA27 Total		46	145	222	260	207	207	69
	% increasing	22%	17%	5%	19%	45%	58%	70%
	% decreasing	43%	10%	6%	40%	31%	40%	29%
AREA37	increasing	7	17	16	16	65	73	11
AREA37	decreasing	10	14	8	94	26	31	1
AREA37	no trend	9	68	99	15	13		
AREA37 Total		26	99	123	125	104	104	12
	% increasing	27%	17%	13%	12%	63%	70%	92%
	% decreasing	38%	14%	7%	75%	25%	30%	8%
OFR	increasing		6	4	1	10	10	1
OFR	decreasing		3	6	10	5	7	
OFR	no trend	5	12	16	5	2		
OFR Total		5	21	26	16	17	17	1
	% increasing	0%	29%	15%	6%	59%	59%	100%
	% decreasing	0%	14%	23%	63%	29%	41%	0%
NONE	increasing	2						
NONE	decreasing	1						
NONE	no trend	8						
NONE Total		11						
	% increasing	18%						
	% decreasing	9%						
TOTAL		88	265	371	401	328	328	82
	% increasing	22%	18%	8%	16%	52%	62%	73%
	% decreasing	35%	12%	7%	52%	29%	37%	26%

When only considering the trends for Member State fleet segments assessed as being out of balance in 2014 according to the criteria of the 2014 Balance Indicator Guidelines (see Table 4.7.2 for assessments of trends in individual countries), the majority of fleet segments which were out of balance according to the biological indicator (SHI) showed improving trends. There were no clear trends for the technical and economic indicators.

Table 4.7.2 Out of balance trend summary table (MS). Percentage of fleet segments of each MS which were out of balance in 2014, and for which trends improved (green font), worsened (red font) or were neutral (black font) over the period 2010-2014.

	Biological Indicator				Technical Indicators								Economic Indicators									
	SHI				% of inactive vessels N				VUR				CR/BER				RoFTA			ROI		
	Total	Incr.	Decr.	None	Total	Incr.	Decr.	None	Total	Incr.	Decr.	None	Total	Incr.	Decr.	None	Total	Incr.	Decr.	Total	Incr.	Decr.
BEL	100%	0%	33%	67%	0%				0%				50%	0%	50%	50%	50%	0%	100%			
BGR	94%	35%	59%	6%	25%	0%	100%	0%					88%	14%	0%	0%	75%	17%	0%			
CYP													83%	100%	0%	0%	67%	100%	0%			
DEU	88%	0%	71%	29%	20%	0%	0%	100%	31%	0%	0%	100%	38%	0%	60%	40%	38%	20%	80%			
DNK	67%	10%	60%	30%									47%	11%	67%	22%	47%	44%	56%	47%	44%	56%
ESP	67%	17%	17%	33%	0%				20%	0%	0%	50%	36%	17%	33%	0%	36%	22%	28%	10%	0%	20%
EST	75%	0%	0%	100%	0%				50%	0%	0%	100%	25%	0%	100%	0%	25%	0%	100%	25%	0%	100%
FIN	25%	0%	0%	100%	33%	0%	100%	0%	60%	0%	0%	100%	100%	60%	0%	40%	100%	100%	0%			
FRA	50%	17%	0%	83%					64%	20%	15%	36%	15%	0%	43%	43%	15%	29%	57%			
GBR	65%	36%	9%	45%	17%	100%	0%	0%					20%	0%	83%	173%	20%	33%	67%	20%	50%	50%
GRC													100%	0%	7%	0%	100%	0%	7%			
HRV	100%	0%	100%	0%	40%	100%	0%	0%	48%	9%	0%	91%	74%	82%	0%	12%	52%	92%	0%			
IRL	40%	33%	33%	33%	20%	0%	100%	0%	53%	0%	0%	100%	50%	14%	57%	0%	50%	29%	43%			
ITA	86%	0%	100%	0%	0%				74%	12%	18%	65%	22%	20%	40%	40%	22%	40%	60%			
LTU	67%	0%	0%	100%	20%	0%	100%	0%	25%	0%	0%	0%	40%	50%	50%	0%	20%	0%	100%			
LVA					100%	100%	0%	0%	67%	0%	0%	100%	33%	0%	100%	0%	33%	0%	100%			
MLT	50%	0%	100%	0%	0%				5%	0%	0%	0%	80%	56%	25%	6%	75%	53%	33%	35%	71%	14%
NLD	100%	0%	44%	56%	0%				21%	0%	0%	100%	21%	67%	0%	33%	21%	67%	33%	21%	67%	33%
POL	100%	0%	0%	67%	0%				100%	14%	14%	57%	57%	0%	100%	0%	43%	0%	100%			
PRT	60%	33%	33%	33%	6%	100%	0%	0%	72%	0%	4%	61%	12%	50%	50%	0%	8%	75%	25%			
ROU	100%	100%	0%	0%	0%				67%	0%	50%	50%	33%	100%	0%	0%	0%					
SVN	100%	0%	0%	100%	25%	0%	100%	0%	75%	0%	33%	67%	0%				0%					
SWE	38%	33%	22%	44%	0%				71%	0%	0%	100%	43%	0%	67%	33%	43%	33%	67%			

5 TOR 2 – ASSESSMENT OF MEMBER STATE ACTION PLANS

5.1 Introductory Remarks for TOR 2

Article 22 of Regulation 1380/2013 (on the Common Fisheries Policy) states that where fleet segment assessments clearly demonstrate that fishing capacity is not effectively balanced with fishing opportunities, a Member State should prepare and include in its report an action plan for the fleet segment(s) identified as having structural overcapacity. According to Article 22 of Regulation 1380/2013, action plans should set out the adjustment targets and tools to achieve a balance, and a clear timeframe for its implementation. This Regulation is further supported by COM (2014) 545 Final which states that action plans should also specify the causes of imbalance and in particular if it has a biological, economic or technical background as calculated according to the indicators.

The evaluation of action plans conducted by EWG 16-09 was based on the protocol described in the STECF 15-02 report. At the start of EWG 16-09 experts discussed the protocol and criteria described in the STECF 15-15 report to assess Member State action plans. In line with the meeting Terms of Reference experts used the following criteria when reviewing action plans:

- i. Indicators and fleet segments considered;
- ii. Adjustment targets specified;
- iii. Specification of tools to reach the adjustment targets;
- iv. Specification of a clear implementation timeframe.

STECF EWG 16-09 therefore undertook its action plan evaluations against the 2014 Balance Indicator Guidelines (COM (2014) 545 Final). Expert judgements are based on comparing the submitted Member State action plans to the requirements of the 2014 Balance Indicator Guidelines. Such an approach in no way implies that the Expert group agrees with the criteria for determining whether a fleet segment is out of balance with its fishing opportunities prescribed in the guidelines.

TOR 2 expressly states that EWG 16-09 is requested to comment on the proposed measures in action plans to eliminate the imbalance identified in national fleet reports. However, the indicator values that are used to assess imbalance and contained in Member State reports may well differ from the indicator values considered as part of EWG 16-09 TOR 1.

5.2 Assessment of Member State Action Plans

5.2.1 Belgium (BEL)

EWG 16-09 notes that no fleet segments were identified by the Member State as showing imbalance and, as such, no action plan was provided.

5.2.2 Bulgaria (BGR)

Indicators and Fleet Segments Considered

The five indicators reported in the Bulgarian action plan are:

- (i) Ratio between average and maximum effort per vessel;
- (ii) $F_{\text{estimated}}/F_{\text{target}}$ ratio;
- (iii) Catch/biomass ratio;
- (iv) ROI (return on investment);
- (v) CR/BER (Current revenue/breakeven revenue).

The rationale for the selection of imbalanced fleet segments is detailed in the report and is based on the results from the five indicators. However, biological indicator results and a final statement on balance or imbalance are missing for 2015 (see Table 6, Action plan for Bulgaria).

In chapter 3 of the Action Plan, Bulgaria has described each fleet segment. Bulgaria has presented its action plan based on the following vessel length classifications: between 0 and 6m, 6 and 12m, 12 and 18m, 18 and 24m; the segments identified by the Member State as imbalanced are given in Table 5.2.2.1.

Table 5.2.2.1 - Imbalanced Bulgarian fleet segments by vessel length categories.

VL0006	VL0612	VL1218	VL1824
DFN	DFN	DFN	PMP
PS	PS	PMP	
HOK	HOK	TM	
PMP	PMP		
PGP	PGP		
FPO	TBB		
	FPO		

Adjustment Targets and Tools

The Bulgarian Action plan includes a fishing vessel decommissioning plan. The adjustment tools and targets proposed by the Bulgarian action plan include the reduction of fishing capacity by a total of 28 vessels in the four fleet segments 00-06, 06-12, 12-18, 18-24 (20 for scrapping and 8 for reallocation, Table 5.2.2.2).

The decommissioning plan foresees 'balanced distribution of vessels by segments, based on results of economic indicator and permanent low technical indicator', but no details on the fishing techniques being targeted by the measures are provided.

Table 5.2.2.2 - Decommissioning plan for Bulgarian fleet segments

Fleet segments	N vessels	kW	GT
0 – 6 m	5	44.12	3.68
6 – 12 m	8	217.35	16.89
12 – 18 m	12	1850.81	230.63
18 – 24 m	3	632.37	129
Total	28	2744.66	380.2

Timeframes for Implementation

The timeframe for implementation is clearly stated in the Bulgarian action plan and should be concluded by 31 December 2017. The action plan is proposed to start at the beginning of 2016 and the Member State forecasts that 40% of the structural overcapacity adjustment plan will be achieved by the end of the first year (by 31 December 2016) and 60% in the second year (by 31 December 2017).

Conclusion

EWG 16-09 notes that the Bulgarian authorities have presented an action plan that classifies fleet segments by length category only and which identifies those length group categories that the Member State considers to be out of balance, together with adjustment targets, tools and timescales for such segments. However, tables with the details of those fleet segments that are identified as being out of balance are incomplete, in particular details on fishing technique are missing. EWG 16-09 notes that the biological indicators used in the action plan do not reflect those contained in the guidelines communicated to Member States (COM (2014) 545 Final) and in the Bulgarian Annual Report 2015. Some measures proposed in the Bulgarian Report such as withdrawal and reallocation of fishing licences and job diversification are not entirely in line with overcapacity reduction objectives. The Commission may also wish to seek clarification of Chapter V1.2 of the action plan "Requirements for scrapping and distribution by type of fishing technique", as the English Language translation provided was not sufficiently clear to the Expert Group. Hence no assessment of the likely impact of the proposals could be undertaken.

5.2.3 Croatia (HRV)

Indicators and Fleet Segments Considered

The 2016 Croatian fleet report relating to the year 2015 provides estimates for the following indicators and fleet segments:

Inactive fleet indicator: indicator values are provided according to the vessel length groups 0-6 m, 6-12 m, 12-18 m, 18-24 m and 24-40 m. Values are expressed in terms of total number of inactive vessels, as a proportion (%) of the overall fleet and as a proportion of overall fleet GT and kW.

Vessel Utilization Indicator (VUI): time series of annual estimates of VUI are provided by length class for the following fleet segments: DFN, DRB, DTS, FPO, HOK and MGO.

Sustainable Harvest Indicator (SHI): indicator values are provided for the PS, DTS and DTN segments as calculated by the STECF EWG 15-17 (STECF report 15-15).

Stocks At Risk indicator (SAR): No SAR indicator values were provided. The report indicates that there were no stocks at risk targeted by the Croatian fleet, as per available data.

Economic dependency indicator: estimates are provided for the PS12-18 m, 18-24 m, 24-40 m and 40XX m; DTS 12-18 m and DFN 12-18 m fleet segments.

Return of fixed tangible assets (RoFTA) and Current Revenue against Break-Even Revenue (CR/BER) are provided for the following fleet segments based on the period 2012-2014: DFN, DRB, DTS, FPO, HOK, MGO, PGP, PMP and PS.

Adjustment Targets and Tools

In terms of balance of fleet capacity and status of resources, the 2016 Croatian fleet report considers that all PS segments, as well as all DTS segments are out of balance. The DFN segment is not considered to show structural overcapacity although the report acknowledges that the number of active vessels might indicate otherwise. The measures considered in the report to redress the imbalance in all the PS and DTS segments are the following:

- Capacity reduction measures by permanent cessation of fishing activities and reassignment funded through the EMFF;
- Effort management measures by temporary cessation of fishing activities (through EMFF) and additional temporal and spatial restrictions and limiting the number of days at sea and;
- Introducing of no-take zone and areas under special management regime;
- Additional restrictions for PS fleet over 12m.

The report also indicates that Croatia intends to use the available possibilities under the EMFF to address the issue of imbalance and states its intention to use EMFF funds for permanent and temporary cessation of fishing activities and other spatio-temporal closures.

Capacity reduction measures

Capacity reductions are set out in table 18 of the 2016 Croatian fleet report and relate to all PS and DTS fleet segments. The targets are expressed in terms of intended reductions of GT and relate to the same fleet segments (PS and DTS by length group) that were included in the action plans submitted in the 2015 Croatian fleet report. The reduction targets are expressed relative to the situation in the year 2014.

The main differences between the action plans in the 2015 and 2016 fleet reports are as follows:

The 2015 fleet report expresses capacity reduction targets in terms of GT and kW, whereas the 2016 report expresses such targets in GT only.

The 2015 fleet report expresses separate capacity reduction targets for measures to be funded under the EFF with targets in terms of GT and kW intended to be achieved by the end of 2017 and capacity reduction targets intended to be funded through the EMFF, to be achieved by the end of 2020, whereas the 2016 report expresses capacity reduction targets for all PS and DTS fleet segments in terms of GT only, intended to be funded through the EMFF to be achieved by the end of 2017.

In terms of GT the capacity reduction targets in the 2016 fleet report for some fleet segments differ from those presented in the 2015 fleet report.

Additional management measures

Purse seine fleet

In 2016, the report indicates that under the provisions of GFCM multiannual management plan in Recommendation GFCM/38/2014/1 the PS fleet will be subject to effort restrictions as follows:

- Maximum of 180 fishing days per vessel per year (and 144 targeting anchovy);
- Maximum 20 days per vessel per month; and
- Spatial and temporal closure of no less than 15 continuous days and up to 30 continuous days taking place between 1 April and 31 August.

Croatia also plans to implement the EMFF funded temporary cessation during May based upon the provisions of the National management plan for purse seine (as was the case also in 2015). Although not explicitly stated in the report, the Expert Group assumes that the temporary cessation of fishing activities relates to 2016 only.

Furthermore, the report indicates that as was the case in 2015, a total closure of the purse seine fishery of 84 days is foreseen for 2016.

DTS fleet

A number of effort management measures are including the continuation of the already implemented measures as from 2015 are planned as follows:

- Introducing the spatial restriction for trawling in Jabuka Pit area, in the period from 25 July 2015 to 25 July 2016, with a plan for extension to 2016-2017;
- Introducing a new regime of spatial and temporal closures in channel areas;
- Introducing the temporary cessation of fishing activities in total duration of 30 days in national fishing zones based on the scientific advice; and
- Reducing effort by implementing diversification of fishing activities with a view of promoting fishing tourism.

DFN fleet

Although the DFN fleet is not considered by Croatia to be out of balance, the report lists the following measures that have been implemented in 2015 and 2016:

- Limiting the length of gillnets that can be deployed. The measures are specified in the report.
- Spatial and temporal closures for trammel nets. The measures are specified in the report.
- Technical measures to decrease effort and increase selectivity. The specific measures are not described in the report.

The report also indicates that the effects of the above measures are expected over the next years and the first results should be reflected in the Fleet reports for 2016 and 2017 respectively.

In addition to the above measures, the report indicates that the Croatian national licensing system prevents the increase of effort in this segment as it doesn't allow for issuing of new licenses or for the transfer of inactive gears from one license to another.

Timeframes for Implementation

Capacity reduction measures

The intended timeframe for implementation of capacity reduction measures is clearly set out in Table 18 of the 2016 Croatian fleet report and indicates that the intended reductions are expected to be achieved by the end of 2017.

According to data collected under the DCF, the 2016 fleet report indicates the capacity reductions that were achieved between 2014 and 2015 for the PS segments which show that activity of capacity (GTseadays) for the PS fleet overall was reduced by 11%. Based on that estimate and taking into account the provisions of Article 16(c) of GFCM/37/2013/1 (GFCM management plan for the Adriatic Sea) and the results of the latest stock assessments a further 20% reduction in GTseadays is still required.

Additional management measures

With the exception of spatial restriction for trawling in the Jabuka Pit area, in the period from 25 July 2015 to 25 July 2016, the additional management measures for the PS, DTS and DFN fleets seem to relate to the years 2015 and 2016 only.

Conclusion

The Croatian action plan clearly sets out the proposed capacity adjustment targets for its DTS and PS fleet segments which are expressed in terms of GT. According to the action plan such adjustments should be carried out during 2016 and 2017 and targets should be reached by the end of 2017.

The Action plan also provides overview of additional measures already implemented in 2015 and those that are to be implemented over the period 2016 and 2017. However how some of the proposed additional measures are to be implemented are not explicitly described.

With the exception of spatial restriction for trawling in the Jabuka Pit area, in the period from 25 July 2015 to 25 July 2016, the additional management measures for the PS, DTS and DFN fleets seem to relate to the years 2015 and 2016 only.

5.2.4 Cyprus (CYP)

Indicators and Fleet Segments Considered

The 2016 fleet report for Cyprus relating to the year 2015 presents and action plan for (i) polyvalent passive gears 0-<12m (small scale inshore fishery with category licenses A&B), and (ii) demersal trawlers operating in territorial and international waters. The action plan presented by Cyprus for the segment polyvalent passive gears 0-<12 m is in fact an update regarding the implementation of the action plan previously implemented in 2015.

The 2015 fleet report contains a section on 'MS opinion on balance of fleet capacity and fishing opportunity', which is based on indicators calculated for the reference year 2014 and distinguishes between vessels with polyvalent passive gears 0-6 m and 6-12 m:

- For the 0-6 m segment the MS considers that vessels seem to some extent underutilized, suggesting a technical overcapacity; the estimated SHI suggests that the fleet relies on stocks that are overfished; the RoFTA is positive, with no indication of economic over-capitalization; and the ratio CR/BER suggests that the segment is profitable (although this result should be treated with caution). Overall the MS concludes that the fleet segment is not in balance with the resources it exploits.
- For the 6-12 m segment the MS considers that vessels seem to some extent underutilized, suggesting a technical overcapacity; the estimated SHI suggests that the fleet relies on stocks that are overfished; the RoFTA is negative, indicating economic over-capitalization; and the ratio CR/BER suggests that the segment's incomes are not covering cost (although this result should be treated with caution). Overall the MS concludes that the fleet segment is not in balance with the resources it exploits.

With regards to demersal trawlers operating in territorial and international waters, the estimated SHI suggests that the fleet relies on stocks that are overfished, and both economic indicators show over-capitalization. As such Cyprus concludes that the fleet is not in balance with the resources it exploits.

Adjustment Targets and Tools

In its 2015 fleet report the Member State proposed to withdraw 55 vessels from the 0-12 m polyvalent segment. In total, once the proposed permanent cessation has been completed, a reduction of at least 30% of the small scale inshore fleet was expected. The action plan presented in 2016 specifies that ,in line with the time-frame for the implementation of the action plan, the measure of permanent cessation of fishing activities was finalized by 2016, with the withdrawal of 66 small scale inshore vessels'. Cyprus also states that the number of licenses 'for the small scale inshore fishery (0-12m with category license A&B) has been reduced in number equal with the number of licenses already removed'. The number of vessels withdrawn from the fleet thus exceeded the original target of 55 vessels by 11 vessels.

The measures proposed for the two demersal trawlers operating in territorial and international waters focus on the closing of areas of biological importance for the stocks exploited by the fleet segment. The MS specifies that 'the closing of areas will be made through the establishment of fisheries restricted areas, either permanently or at seasonal level' and expects the measures to also benefit the small scale inshore fleet since it targets the same resources. In addition, the MS plans to intensify control measures for trawl activities in territorial waters, and to consider incentives to reduce reliance on demersal stocks fished in territorial waters by increasing fishing effort on demersal species in international waters and large pelagics.

Timeframes for Implementation

The planned permanent cessation of fishing activities in the polyvalent passive gears 0- <12m (small scale inshore fishery with category licenses A&B) segment was finalized by 2016.

The intended timeframe for the establishment of fisheries restricted areas to achieve balance for demersal trawlers operating in territorial and international waters is:

- Adoption of a management plan for the Natura 2000 site in the southeast of Cyprus (Cavo Greko) in 2017;
- Consultation with stakeholders to extend the fisheries restricted area to a larger part of the Cavo Greko area in 2016-2017;
- Establishment by 2018 of a fisheries restricted area in northwest of Cyprus;
- Consultation with stakeholders during 2016-2017 for introducing a whole year area closure for trawling in the northwest of Cyprus.

Conclusion

The 2016 fleet report relating to the year 2015 and the action plan chapter provides detailed information about the implementation of the Cypriot action plan:

"Following the action plan included in the 2013 and 2014 Balance Reports, during 2015 65 small scale inshore vessels (and one vessel in January 2016) were permanently withdrawn. The resulting capacity reduction was 189.74 GT (186.62 GT in 2015 and 1.55 GT in 2016) and 2863 kW (2797.08 in 2015 and 14.92 in 2016)."

The Cypriot action plan clearly sets out the proposed capacity adjustment targets for its small scale (0-12m polyvalent passive gear) segments. According to the action plan, the measure of permanent cessation of fishing activities was finalized by 2016.

The Cypriot action plan includes adjustment measures for demersal trawlers operating in territorial and international waters which focus on improving fishing opportunities. The tools and timeframes for implementation to achieve the targets in the action plan are clearly outlined.

5.2.5 Denmark (DNK)

Indicators and Fleet Segments Considered

The Danish action plan relates to the segments "less active and inactive vessels under 10 metres" and "ITQ-managed vessels including medium sized vessels 12-18 metres".

For the segment of 'less active and inactive vessels under ten metres' the action plan does not explicitly refer to the vessel use indicator, but it argues that imbalance is mitigated by the fact that:

- A great number of these vessels is permanently inactive or used by part-time fishermen who do not depend on fishery as their main source of income.
- Some vessels are not used for fishery, but are used for technical purposes in the pound net fishery.
- The less-active vessels also constitute an important social value for the coastal community and for the owners, who are often retired fishermen.

For the segment of ITQ managed vessels between 12 and 18 metres, the action plan refers to the biological and economic indicators having some imbalance. Especially for the economic indicator of return on investment, the action plan qualifies the results by stating that the standard salary used for the calculation is too high for the sector, and thus biases the indicator results towards imbalance.

Adjustment Targets and Tools

The Danish action plan does not give any targets for the two segments included. The plan mentions some improvement of the capacity situation and proposes monitoring and control as tools.

The main tools in the plan for the small-scale, part-time segment are monitoring and control. Other management measures referred to vessels outside the ITQ-management system are restrictions to fish only on differentiated quotas (a limited amount of quota per period or "ration") and non-quota species.

The tools for the ITQ managed vessels (12-18m) are automatic reductions of all ITQs in proportion to reductions in the national quota allocation and the market mechanism that incentivises the opt-out of less profitable vessels under the ITQ system.

Timeframes for Implementation

No concrete time frame is presented; monitoring and control measures are reported to be on-going.

Conclusion

The Danish action plan does not consider the need for action for any of the segments for which indicator values suggest imbalance and simply puts emphasis on monitoring and control.

For the small-scale, part-time segment, the Member State asserts that control and monitoring of fishing activity will guarantee that the capacity is kept within the fishing opportunities, but no targets are given.

5.2.6 Estonia (EST)

EWG 16-09 notes that no fleet segments were identified by the Member state as showing imbalance and consequently, no action plan was provided.

5.2.7 Finland (FIN)

EWG 16-09 notes that no fleet segments were identified by the Member state as showing imbalance and consequently, no action plan was provided.

5.2.8 France (FRA)

The French fleet segmentation is similar to that reported in 2015 with 225 fleet segments. Using the classification criteria proposed in point 2 of the 2016 fleet report, fleet segments were classified in five categories as follows: 129 were considered balanced, 13 with enduring imbalance, 35 to be monitored, 18 inactive and 30 were unclassified as it was not possible to calculate reliable biological indicators.

According to the French Authorities, only those fleet segments classified with enduring imbalance are identified as having structural overcapacity and are included in the action plan.

For the French Authorities the enduring imbalance classification is determined by the unsatisfactory values from the SHI or SAR indicator in 2012, 2013 and 2014 or 'if the landings carried out on overharvested stocks where France represents over 54% of total landings lead to (cumulative criteria for 2012, 2013 and 2014):

- A Segment catches-stock/Total catches stock ratio which exceeds 1/Total number of French segments;
- The economic dependence on these overharvested stocks exceeds 40%'.

EWG 16-09 notes that the number of fishing stocks considered for the SHI and SAR calculations in the 2016 report had significantly increased in relation to 2015, which benefits the reliability of the biologic indicators calculation.

Finally, EWG 16-09 notes that while the French Authorities calculate the technical and economic indicators, they do not take them into account in assessing the balance between fishing capacity and fishing opportunities.

Indicators and Fleet Segments Considered

As mentioned before only biological indicators were used to determine which segments are out of balance. The segments indicated in the action plan are in accordance with these identified in the fleet report and are the following:

Bay of Biscay (BB)

Drift and/or Fixed Nets	(DFN)	-	VL1012	VL1218	VL1824
Other Active Gear	(MGO)	-	VL0010		

Atlantic North Sea – Eastern Channel (NSEC)

Drift and/or Fixed Nets	(DFN)	-	VL0010	VL1012	VL1218
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Mediterranean (MED)

Mediterranean Seiner	(DTS)	-	VL1824	VL2440	
Drift and/or Fixed Nets*	(DFN)	-	VL0006	VL0612	
Other Active Gear*	(MGO)	-	VL0006	VL0612	

* Only for vessels using *gangui* methods have an enduring imbalance.

Adjustment Targets and Tools

The French Authorities propose the following tools to reach fleet segment balance:

Vessel decommission by scrapping	(all segments considered)
Ban of new vessels	(BB and NSEC)
Limiting capacity and effort for sole fishing	(NSEC)
Temporary cessation	(BB and NSEC)
Fleet conversion	(NSEC, BB_DFN and MED_gangui)

The action plan also predicts maintaining the authorization system in the Mediterranean fleet segments with several limitations to vessel capacity, vessel and license transactions and vessel modifications. Finally, the action plan predicts consultation with the National

Committee for Maritime Fisheries and Fish Farming for the Bay of Biscay fleet segments and Ifremer and the professional sector for the MED_DTS segment.

The action plan establishes capacity adjustment targets (number of vessels, GT and kW) through decommissioning only.

For the Bay of Biscay an Atlantic North Sea East Channel the reduction targets were calculated by applying the recommendation contained in the ICES 2015 advice. For the DTS segment in the Mediterranean Sea it is stated that the reduction targets were calculated by applying the recommendation contained in the ICES 2016 advice: 'The reduction has been calculated by applying the recommendation contained in the ICES 2016 advice, i.e. a reduction by 12 of hake mortality, pro-rata to the contribution of the segment to French landings for this stock'. EWG 16-09 notes that the Regional Fisheries Management Organisation in charge of the Mediterranean Sea (specifically GSA 7) is the General Fisheries Commission for the Mediterranean (GFCM), so this justification appears to be erroneous. For the *ganguì* vessels the target is 5 vessels which represents around 20% of the fleet with one additional target criterion related to vessel activity.

Timeframes for Implementation

The action plan sets out a timescale for the permanent cessation of fishing activities with public aid from 30 November 2016 to the end of 2017. The residual decommission is intended to be complete by the end of 2020.

Conclusion

The French criterion for classifying imbalanced fleet segments is only based on biological indicators. In addition to the SHI and SAR indicators, the Member State used two additional criteria based on an Economic Dependency Indicator (EDI) and Number of Overexploited Stocks (NOS). EWG 16-09 notes that the use of the NOS and EDI indicators enabled greater coverage of French landings (70%) and therefore a more comprehensive diagnosis for French fleet segments.

The fleet segments classified as having enduring imbalance were clearly identified and specific tools were tailored for each segment. Targets based on scientific reports and associated timeframes for the permanent removal of vessels from the fleet are contained in the action plan.

5.2.9 Germany (DEU)

The 2016 German action plan seems to be an update of the one presented in 2015, with slight changes in timelines. However, the late delivery of the plan and problems with the English language translation prevented further review by the Expert Group.

Germany provided updated action plan based on a full assessment of indicators as included in the fleet report. EWG 16-09 notes that the proposed plan includes an updated timetable for implementation of proposed measures. The differentness between the action plan provided in 2015 (AP2015) and the updated version (AP2016) are presented in Table 5.2.9.1.

Table 5.2.9.1 - Comparison of measures in the 2015 and 2016 action plans

Fleet segment	VL1012PG		VL1218DFN		VL1012DTS		VL1218DTS		VL1824DTS		VL2440DTS	
Objective	AP2014	AP2015	AP2014	AP2015	AP2014	AP2015	AP2014	AP2015	AP2014	AP2015	AP2014	AP2015
Measures to shift relevant quotas	2016	continuous	2016	continuous	2016	continuous	2016	continuous				
MSC certification	2017	2017	2017	2017	2017	2015	2017	2015				
Marketing support	2017	continuous	2017	continuous	2017	continuous	2017	continuous				
Aid restrictions	2017	continuous	2017	continuous	2017	continuous	2017	continuous				
Modernisation									2017	continuous	2017	continuous
Fisheries monitoring and control									2017	continuous	2017	continuous
Cod camera project in the North Sea											2015/2016	2015/2017

5.2.10 Greece (GRC)

EWG 16-09 notes that no fleet segments were identified by the Member State as showing imbalance and consequently, no action plan was provided.

5.2.11 Ireland (IRL)

Indicators and Fleet Segments Considered

The Irish authorities present biological, economic and technical indicators, but caution that 'the technical indicators as currently set down do not allow for the highly diverse nature of the fleet or the range of natural variation within these segments'.

Economic indicators presented in the 2016 fleet report are the CR/BER and the RoFTA; and as was the case in the fleet report submitted in 2015, the Irish authorities identified imbalanced fleet segments based on economic performance:

'Ireland is of the view that based on the analysis herein concerning the economic performance of the fleet, it is apparent that some degree of fleet adjustment is necessary for the Irish polyvalent (12 – 24 m LOA) fleet as was also identified in our 2014 Report'.

The action plan submitted in 2015 and 2016 states that while there has been improvement in balance for the demersal trawlers and seiners (DTS) segments since 2008, these two vessel groups currently require adjustment:

- The DTS 18-24 m length class shows signs of overcapitalisation.
- The DTS 12-18 m length class and DTS 24-40 m length class length classes pass the short and long term indicators in the last two years of the analysis; however, the DTS 12-18 m length class length class was very close to failing the long term indicator in 2013.
- In the AER report the DTS 12-18 m length class failed the net profit indicator.

The Irish action plan further concludes that 'the possibility of overcapitalisation within the polyvalent 24-40 m length class also exists'. The Member State however clarifies that vessels between 24 and 40 m are excluded from the targeted decommissioning scheme being implemented in order to maximise the benefits by targeting the vessels within the length 12 to 24 m bands, which contribute the most to Irish landings. By freeing up fishing opportunities from the 12 to 24 m length group and making these available to all vessels in the national segment, the Irish authorities hope to redress the balance between fishing opportunities and the economic performance of the various fleet segments including the DTS VL2440 fleet segment.

Adjustment Targets and Tools

EWG 16-09 notes that according to the fleet report, the actions proposed by the Member State should contribute significantly to achieving balance between capacity and fishing opportunities. Ireland will implement an action plan consisting of 3 complementary measures:

- Increased sale prices brought about by product improvement schemes including quality schemes, on board handling schemes, responsible fishing schemes etc. all of which differentiate the product and lead to higher first point of sale prices.
- Onboard added value schemes. For example, frozen at sea prawns command significantly greater first point of sale values than traditionally landed formats.
- Fleet Decommissioning with the aid of targeted schemes introduced pursuant to article 42 of REGULATION (EU) No 508/2014 on the European Maritime and Fisheries Fund.

The schemes intended will improve the added value or quality of the fish caught, through targeted support for:

- Investments that add value to fishery products, in particular by allowing fishermen to carry out the processing, marketing and direct sale of their own catches;
- Innovative investments on board that improve the quality of the fishery products.

The support will be conditional on the use of selective gears to minimise unwanted catches and shall only be granted to owners of Union fishing vessels that have carried out a fishing activity at sea for at least 60 days during the two calendar years preceding the date of submission of the application for support.

Ireland estimates that between 20% and 30% of the projected economic deficit identified will be addressed through these schemes.

With regards to targets for the fleet decommissioning scheme, the Irish action plan specifies that a fund of €16 million will be established to allow for the permanent removal of up to 3,500 GT / between 25 and 50 vessels from the identified segment.

Timeframes for Implementation

According to Irish authorities, the action plan will take place in 2016 and 2017. The support schemes are scheduled to conclude on 31 December 2017 coinciding with the end of the EMFF programme.

The Irish authorities state that 'the action plan as per Article 22(4) of Regulation 1380/2013 submitted as part of the 2014 remains valid and we are continuing to work on the full implementation of that plan', and that 'discussions on the rollout of the decommissioning scheme are still taking place at a national level', but no further details on the progress of the action plan submitted in 2015 are provided in the 2016 fleet report.

Conclusion

The action plan submitted by the Irish authorities in 2015 remains valid and Ireland is continuing to work on the full implementation of that plan. The Irish action plan seeks to address the identified structural overcapacity for the Irish polyvalent (12-24 m LOA) fleet, which was identified as imbalanced based on its poor economic performance. The Irish action plan clearly sets out the adjustment targets, tools and timeframes for implementation.

5.2.12 Italy (ITA)

An action plan was presented by Italy together with its 2016 fleet report relating to the year 2015.

Indicators and Fleet Segments Considered

In order to define imbalance in fleet segments, Italy has calculated biological, economic and technical indicators:

- Biological indicators considered are i) SHI (Sustainable Harvest Indicator. SAR (Stock At Risk) was not calculated: 'owing to the lack of reference points based on biomass for most of the stocks fished by the Italian fleet, it is not possible to estimate the SAR'.
- Economic indicators presented are i) ROFTA (Return on Fixed Tangible Assets) and ii) CR/BER (Current revenue over break-even revenue).
- Technical sustainability indicators presented are i) IVI (Inactive Vessel Indicator) and ii) UTR (Vessel utilization ratio)

These 3 groups of indicators have been calculated for 2014, by fishing method, length category, and GSA.

Italy has defined a methodology to determine imbalance in segments. In order to identify fleet overcapacity, the Member State focuses on the SHI and considers that a fleet has imbalance when the SHI is >1.0 for at least two years out of three over 2012-2014. Once Italy has identified imbalance in the fleet considering SHI, the associated economic indicators are looked at by the MS. Twenty-five fleets have been considered as having imbalance (Table 2.2.12.1) according to the SHI and 16 of them have negative ROFTA.

Table 5.2.12.1 - Imbalanced Italian Fleet Segments as identified in the 2016 fleet report

DTS VL0612	GSAs 10/17/18
DTS VL1218	GSAs 10/16/19/
DTS VL1824	GSAs 9/10/16/17/19
DTS VL2440	GSAs 9/11/16/
PGP VL1218	GSA 17
PS VL0612	GSA 17
PS VL1218	GSA 17
PS VL2440	GSAs 17/18
TBB VL1824	GSA 17
TBB VL2440	GSA 17
TM VL1218	GSA 17
TM VL1824	GSA 17
TM VL2440	GSAs 17/18

EWG 16-09 notes that imbalance is not based on economic indicators, since the Member State considers that the values are mostly influenced by external factors such as fuel price.

Adjustment Targets and Tools

Italy has noted four tools targeting the 25 segments

- Reduction of fleet activity: referred to in Article 34 of Regulation (EU) No 508/2014 (reduction of GT).
- Space and time-related fishing restrictions
- Improvements in selectivity, especially that of towed gears because selectivity improvements can significantly contribute to the reduction of unwanted catches

Based on financial resources allocated by the EMFF Operational Programme 2014/2020, the Member State has proposed an 8% reduction in capacity (GT) of the trawler fleets targeting demersal stocks and an 8% reduction in the capacity (GT) of the purse-seine/pair-trawling fleet in GSAs 17/18. The capacity reductions expressed as GT are also given as equivalent numbers of vessels together with the anticipated costs associated with the scrapping.

Italy aims to progressively achieve balance since 'a general and drastic reduction of fishing effort by a massive scrapping plan to be realised in a short period is not feasible because it would have a socio-economic impact impossible to handle, especially at a time of widespread crisis in the sector'.

Timeframes for Implementation

No specific timeframes for implementation are presented although reference is made to '2020 as the time horizon for achieving F_{MSY} for all stocks'.

Conclusion

The Member State envisages further reductions in fishing mortality $F_{current}$ to be brought about through multi-annual management plans provided for by Regulation (EU) No 1380/2013 (Articles 9 and 10) and/or through changes in the management plans in force (under Regulation (EC) No 1967/2006). Italian authorities consider that this will be achieved through a combination of temporary cessation, effort control, and a ban on towed gear in biological protection areas.

The targets listed in the action plan are clearly set out by fleet segment (fishing methods, length categories, Geographical Sub-Areas and, species groups). Targets are provided as percentage reduction in capacity with accompanying information on the precise quantity by GT, vessel number, and costs.

5.2.13 Latvia (LVA)

The 2016 Latvian fleet report does not contain any new action plan, an action plan for the period 2015-2017 was presented in 2015. Nevertheless, the longer term action plan has been assessed in relation to the 2016 fleet report.

Indicators and Fleet Segments Considered

The 2016 Latvian fleet report provides estimates for the following indicators and fleet segments:

Inactive fleet indicator: time series of indicator values (2009-2013) are provided for vessels according to the following length groups for vessel length groups 12-18 m and 24-40 m. Values are expressed in terms total number, and proportion (%) of inactive vessels and as a proportion (%) of the overall fleet and as total and proportion (%) of overall fleet GT and kW.

Vessel Utilization indicator (VUI): time series of annual estimates of VUI are provided for netters 24-40 m (2005-2015), trawlers 12-18 m and 24-40 m (2005-2015) and vessels less 10 m using polyvalent passive gears (2009-2015).

Sustainable Harvest Indicator (SHI): time series of indicator values (2012-2014) for cod herring and sprat are provided for trawlers and netters 24-40 m for subdivisions 25-32 and for herring caught by trawlers 12-18 m and 24-40 m for subdivision 28.1 (Gulf of Riga).

Stocks at risk indicator (SAR): No SAR indicator values were provided.

Return on Investment (ROI) time series of indicator values (2012-2014) expressed as Net profit / capital asset value (%) and risk free long term interest rate (%) are provided for passive gear vessels (PG) <10 m, for pelagic trawlers (TM) 12-18 m and 24-40 m and for all vessels in length groups 12-18 m and 24-40 m.

Current Revenue against Break-Even Revenue (CR/BER) indicator values are provided for passive gear vessels (PG) <10 m, for pelagic trawlers (TM) 12-18 m and 24-40 m and for all vessels in length groups 12-18 m and 24-40 m.

With regard to the balance between capacity and fishing opportunities the report concludes the following:

- The vessel utilization indicator shows existence of potential imbalance for two Latvian fishing fleet segments - trawlers 24-40 m and small boats less than 10 m.
- The trawlers 24-40 m segment relies on the "overfished" stock (sprat) and may be considered as showing imbalance.

Adjustment Targets and Tools

The 2016 Latvian fleet report does not contain any new action plan. Hence no adjustment targets or tools are specified. According to the Action plan for 2015-2017, the vessels in the 24-40 m netters segment targeting Eastern Baltic cod are to be scrapped in order to achieve a balance between the fleet's capacity and its fishing opportunities.

Timeframes for Implementation

The 2016 Latvian fleet report does not contain any new action plan. Hence no timeframes for implementation are specified.

Conclusion

Given that Latvia has not provided a new or revised action plan the conclusions of the Expert Group remain the same as those given in STECF 15-15 which were as follows:

Latvian authorities present a plan to decommission one segment, DFN 24-40, targeting cod stocks in the Baltic Sea. Adjustment targets and tools are specified, while a detailed timeframe for implementation is lacking.

Latvia presents one action plan for one fleet segment without explaining why this segment has been chosen and other segments haven't been chosen. EWG 16-09 notes that further clarification is required by the Member State as to why this decision has been made."

5.2.14 Lithuania (LTU)

The 2016 fleet report does not contain a new action plan; a longer term action plan was set out in 2015.

Indicators and Fleet Segments Considered

The 2015 fleet report for Lithuania presented a 'Corrective action plan to achieve the balance in the fleet segment DTS 24-40' operating in the Baltic Sea and targeting cod stocks.

Adjustment Targets and Tools

According to the fleet report of 2015 the segment DTS 24-40 demersal trawlers operating in the Baltic Sea and targeting cod stocks shows ROI and CR/BER economic indicators outside of recommended thresholds. The indicators in the fleet report of 2015 were calculated based on data for 2013.

The action plan is designed to redress the potential imbalance identified as a result of economic indicators and proposes reducing capacity ceiling limits (by 500 GT) in order to address the potential imbalance.

Timeframes for Implementation

According to the previous year action plan the actions would take place till the end of 2015.

Conclusion

The 2016 fleet report does not contain a new action plan. The 2015 fleet report for Lithuania presented a 'Corrective action plan to achieve the balance in the fleet segment DTS 24-40' operating in the Baltic Sea and targeting cod stocks. The 2016 fleet report provides balance indicators for this fleet segment, and concludes that '*Calculation for segments No 1 and No 5 PG <10 m. and DTS 24-40 m., could show possible imbalance though in combination with other indicators- segments are balanced*'. No information on implementation of the 2015 action plan was provided in the 2016 fleet report.

5.2.15 Malta (MLT)

Indicators and Fleet Segments Considered

Due to the paucity of reliable biological data, the Maltese action plan considers the only meaningful indicator for its fleets to be the Return On Investment indicator (ROI). The action plan states that the only Maltese catches for which fishing opportunities are set relate to bluefin tuna.

The plan considers that with the exception of Purse Seiners (PS) and Gears using Hooks (HOK) for the lengths 12 m and over, all other Maltese fleet segments are imbalanced.

Adjustment Targets and Tools

The tools proposed in the action plan include:

- Closed areas and closed seasons (the Maltese authorities consider that these measures 'would have a positive impact on the stocks exploited especially if targeted to improve their spawning potential').
- Interventions on the market to improve the returns of the sector, potentially including promotion of the fishery products or to incentives for the better organization of the sector to access more profitable markets.
- The elaboration of a census of the whole fleet to improve data quality.
- A stop in the granting of new authorisations for fishing with pots and traps, which will also be applied to recreational vessels.

Management measures under the Mediterranean Regulation, General Fisheries Commission for the Mediterranean (GFCM) and International Commission for the Conservation of Atlantic Tuna (ICCAT) are also mentioned in the action plan, and are said to contribute to achieving sustainable exploitation of stocks.

Timeframes for Implementation

The action plan states that it will be implemented starting on January 1st 2017, after the necessary regulations are approved in the fourth quarter of 2016. The end of the implementation period is subject to the achievement of the balance in the segments involved.

Conclusion

Malta has presented various tools adapted to different segments, including closed areas for DFN, closed seasons for FPO and freezing capacity for both fleet segments. Other measures as an increase in monitoring or promotion of better marketing have been applied to all segments. However, the targets are not always clear, for example an 'increase of biomass by 2020' is listed for the DFN segment without specifying the species.

5.2.16 The Netherlands (NLD)

EWG 16-09 notes that no fleet segments were identified by the Member State as showing imbalance and, as such, no action plan was provided.

5.2.17 Poland (POL)

Poland stated in the 2016 fleet report that assessments of fishing capacity in relation to the available fishing opportunities for the individual segments have not changed compared to those included in their 2015 report, and therefore, the action plan submitted together with their fleet report for the period of 1 January to 31 December 2014 remains valid. EWG 16-09 understands that the action plan presented with the 2016 report is only a formal presentation of the plan currently in force which was reviewed by STECF EWG 15-17. EWG 16-09 notes that there is no information provided in the 2016 fleet report on whether any measures proposed in the 2015 action plan have been implemented.

5.2.18 Portugal (PRT)

The Portuguese fishing fleet consisted of 8 054 vessels, distributed over the mainland, the Autonomous Region of the Azores and the Autonomous Region of Madeira. In point 2 of the national fleet report Portugal states *"Regarding the balance between fleet capacity and fishing opportunities, and based on the joint application of biological, economic and activity indicators, it can be seen that no fleet segments exist which are structurally imbalanced"*. However, an action plan was presented for those fleet segments which Portugal considers to be out of balance with fishing opportunities.

Indicators and Fleet Segments Considered

The Portuguese action plan includes information about the results of biological and economic indicators for imbalanced fleet segments. The technical indicator performance was not presented in the action plan. However, in the fleet report it is considered that this indicator be complemented by other relevant data. This data can help to introduce the appropriate adjustment measures.

The action plan identifies 12 mainland fleet segments that demonstrate potential signs of imbalance. These segments contain vessels using as their main gear: nets (DFN 18-24); dredges (DRB 18-24, DRB 24-40), demersal trawls (DTS 18-24, DTS 24-40); hooks (HOK 24-40, HOK 40-XX) and purse seines (PS). The segments are identified based on analysis of the *"balance indicators together with complementary information, more specifically with regard to the situation of some more significant fish stocks in the segment"*. The same approach was used in the previous year. The proposed adjustment tool is decommissioning for the imbalanced fleet segments.

Table 5.2.18.1. - Fleet segments identified as imbalance in the Portuguese action plan.

		Number	GT	kW
DFN	VL1824	27	1 807	6 438
DRB	VL0010	44	136	1 963
	VL1012	24	197	1 696
	Total	68	333	3 659
DTS	VL1824	7	839	2
	VL2440	67	14 751	36 326

	Total	74	15 590	36 328
HOK	VL2440	29	6 510	12 765
	VL40XX	5	2 910	4 169
	Total	34	9 420	16 934
PS	VL0010	24	109	1 060
	VL1012	28	254	2 157
	VL1218	34	694	4 827
	VL1824	51	2 856	14 529
	VL2440	18	1 490	6 261
	Total	155	5 403	28 834
Total		358	32 553	92 193

STECF EWG 16-09 notes that the fleet segments identified as imbalanced in the 2016 national fleet report are included in the accompanying action plan.

Adjustment Targets and Tools

The proposed adjustment targets are clearly stated in the action plan. The capacity adjustment targets are to reduce the fleet by decommissioning 21 vessels out of a total of 358 in 12 imbalanced mainland fleet segments which is approximately 6% of the total number of vessels in those segments. The rationale behind the proposed reduction aims is not clear for all fleet segments, for instance for DTS VL1824 and VL2440 it is not clearly explained how a fleet reduction by 3 vessels will achieve the stated aim of 'adjusting fleet capacity to available resources'. In accordance with the provisions of Regulation (EU) No 508/2014, the proposal is to permanently withdraw some vessels with financial support under the EMFF.

STECF EWG 16-09 notes that according to the information provided in the Portuguese report, 4334 vessels had no fishing activity in 2015. „*These vessels correspond to around 52.8% of the total registered fleet, but which in terms of capacity, account for approximately 30% of gross tonnage (GT) and 26.9% of propulsion power (kW)*“. The Portuguese authorities explain that in 2015 a process for removing these vessels from the fishing fleet has started and will take place by no later than the end of 2017. The removal of inactive vessels the Portuguese authorities refer to in section 8.1 of the 2016 fleet report is however not reflected in the proposed adjustment targets in the action plan, which is presented as a separate Annex. The Portuguese action plan does not make reference to active or inactive vessels.

Timeframes for Implementation

A clear timeframe for implementation of the proposed measures is described in the action plan. The completion of the measure of permanent cessation of fishing activities is expected before 31.12.2017, coinciding with the end of the provisions for decommissioning aid under the EMFF.

Conclusion on Assessment of Proposed Measures

The Portuguese report and plan contain detailed analysis of fleet segments and an explanation of the reasons why a fleet segment is considered to show imbalance. There is good consistency between the fleet report and action plan. Timelines are presented along with adjustment targets. It would be useful if the targets were supported with a clear rationale for their calculation. Moreover, there is some inconsistency in the adjustment targets in the action plan. For example, for segments DRB VL0010 and DRB VL1012, it is stated: 'this segment would benefit from the permanent withdrawal of around 15% of vessels', but the corresponding reduction target is for 6 vessels, which represents only about around 9% of the 68 vessels that comprise those segments.

5.2.19 Romania (ROU)

As in the previous annual report EWG 06-09 notes that no fleet segments were identified by the Member state as being out of balance, and as such, according to No 4 of article 22 of Regulation (EU) No 1380/2013, no action plan is necessary for the adjustment of fishing capacity to the fishing opportunities.

Nevertheless, EWG 16-09 notes that an action plan is presented by Romania which contains a series of actions for all the fleet segments in order to improve the economic and technical indicators (increasing the number of at sea and issuing fishing permits), fisherman training, partnership between scientists and fisherman, engine replacement, gear selectivity and creating authorization systems to regulate the number of permitted gears for overexploited species.

Given that there are no fleet segments that are considered to be out of balance with their fishing opportunities, EWG 16-09 notes that the proposed action plan is an attempt to manage the existing capacity to enhance its efficiency and economic performance.

5.2.20 Slovenia (SVN)

Indicators and Fleet Segments Considered

The 2016 fleet report contains the technical, economic and biological indicators for the purse seines (PS) segment, and technical and economic indicators for netters. EWG 16-09 notes that these indicators were calculated although the MS considers on page 21 that: *'the proposed indicators are not suitable for describing Slovenian fisheries sector and above all it is not suitable taking on their basis' decisions on management measures''*.

Slovenia has identified the following segments that require an action plan: Purse seines (PS) segment; Drift and fixed nets (DFN) up to 6 m LOA; Drift and fixed nets (DFN) with LOA 6-12 m.

Adjustment Targets and Tools

Three tools have been specifying for purse seiners:

- i. reducing fishing effort;
- ii. temporary cessation of fishing activities;
- iii. freezing the number of fishing licenses;

Two tools have been identified for inclusion in the action plan for netters 00-06 and 06-12 m LOA:

- i. freezing the number of licenses;
- ii. implementation of relevant measures of Common Fisheries Policy (exploitation at MSY).

With regard to the above measures, no specific adjustment targets specified.

Timeframes for Implementation

The timeframe for implementation of the Slovenia action plan is not clearly specified.

Conclusion on Assessment of Proposed Measures

EWG 16-09 notes that according to the information provided in the 2016 Slovenian fleet report, the purse seine segment (PS) is the only segment for which it is possible to calculate technical, economic and biological indicators. Biological indicators have not been calculated for the netter segments (DFN). EWG 16-09 notes that the action plan does not include clearly defined adjustment targets or timeframes for implementation.

5.2.21 Spain (ESP)

Indicators and Fleet Segments Considered

The following supra-regions have been taken in to consideration in defining the Spanish fleet segmentation in the 2016 action plan (reference year 2014):

- North Atlantic: Cantabrian and north west (CNW); Gulf of Cadiz (GC); REST of FAO region 27 (western waters, NEAFC); FAO region 21 (NAFO)
- Mediterranean: FAO region 37 (Mediterranean 37.1-37.2) by GSA
- Other fishing regions: FAO region 34.1.2 (Canary Islands; CAN); Remaining Areas (South-Central Atlantic-Pacific-Indian Ocean)

In drafting the action plan the following was also taken into account:

- The inactivity and part-time activity of parts of the Spanish fishing fleet.
- The 'actual catch capacity' of the Spanish fleet based on fishing activity, which was estimated by separating the fleet fishing for more than 90 days per year (regular fishing vessels) and those vessels fishing for under 90 days (part-time fishing vessels).

Based on the above considerations Spanish authorities decided to focus the action plan on its full-time fishing fleet, excluding vessels for which fishing is a supplementary activity and which 'not exert an effort that could have a negative impact on fishery resources'.

According to the Spanish authorities several new factors were taken into consideration when drafting the 2016 action plan (reference year 2014):

- i. 'The biological indicator takes into account more studies of stocks and SAR, according to the analysed data.'
- ii. 'In addition, since last year, in the Mediterranean, the population was segmented by GSA for each home port and scientific studies of each stock were applied in each GSA (the weighted average of stocks was taken previously).'

- iii. 'In the technical indicator, instead of using the weighted maximum activity by fleet segment, the average was taken for 10 vessels operating at maximum activity over the four years of study (STECF recommendation).'
- iv. 'The ICES passive gear fleet (bottom longliners over and under 100 GRT and gillnets) were treated as passive gear PGP in EU fishing grounds (which allowed us to separate vessels fishing with hooks in EU waters not participating in this fishery).'
- v. 'Within the Spanish North Atlantic fishing grounds, separate studies were conducted on the fleet fishing in the Cantabrian and North-west area and the fleet fishing in the Gulf of Cadiz.'
- vi. 'Surface longliners (PGO) were analysed separately.'
- vii. 'An overall indicator weighted by fleet segment, to facilitate their interpretation, giving more weight to economic indicators and SHI.'

EWG 16-09 considers that several of these 'new factors' are unclear:

- i. Presumably 'studies of stocks' refers to stock assessments;
- ii. It is not clear what 'population' is being referred to;
- iii. It is not clear what average is being referred to (arithmetic mean activity?), how the 10 vessels were chosen, or which STECF report is being referred to;
- vi. It is not clear what surface longliners were analysed separately from;
- vii. It is not clear how the overall indicator was calculated and for what purpose.

The Fleet segments identified as imbalanced in the Spanish action plan are not clear. On the one hand the below list of fleet segments which are referred to as the '2014 Action Plan Populations' in the translated version of the document is given:

National Waters

- Cantabrian and North West: DFN (10-24m), DRB (0-10m), DTS (24-40m), FPO (12-18m), HOK (10-40m), PMP (0-18m), PS (12-40m)
- Gulf of Cadiz: DFN (12-18m), DRB (10-18m), DTS (12-24m), FPO (12-18m), PMP (0-10, 12-18m), PS (12-24m)
- Mediterranean: DFN (10-18m), DRB (10-18m), DTS (12-40m), FPO (12-18m), HOK (10-18m), PGO (12-24m), PMP (0-18m), PS (10-18m)
- Canary Islands: FPO (12-18m), HOK (18-24m), PMP (0-10, 12-18m), PS (10-12m)

The total number of fishing vessels operating in Spanish national waters listed as part of the '2014 Action Plan Population': 5343 (CNW: 2805; GC:481; MEDITERRANEAN: 1836; and CAN: 221)

Non-Spanish Waters

- Atlantic: DTS (18->40m), PGO (18-40m), PGP (24-40m)
- Other fishing regions: DTS (24->40m), HOK (12-18, 24-40m), PGO (24->40m), PS (>40m)

Total fishing vessels analysed in the non-Spanish waters listed as part of the '2014 Action Plan Population': 392 (ATL:176 and RFO: 216).

On the other hand, the below list of fleet segments which are referred to as the 'Imbalanced segments in 2014 Spanish waters' in the translated version of the document is given:

National Waters

- Cantabrian and North West: Trawl (24-40m), Purse Seine (18-24), CNW Gillnet (0-40m), Hooks (0-40m), Dredges (0-10m), Pots (10-18m), PMP (0-10m, 12-18m)
- Gulf of Cadiz: Trawl (12-24m), Dredges (0-18m), Pots (10-18m), PMP (0-18m)
- Mediterranean: Trawl (18-40m), Gillnet (6-18m), Hooks (6-24m), Surface longline (6-24m), Multipurpose (6-18m), Purse Seine (12-24m)
- Canary Islands: PMP (0-10, 18-40m), Pots (0-18m)

The total number of fishing vessels operating in Spanish national waters listed as 'Imbalanced segments in 2014 Spanish waters': 4681 (CNW: 2597; GC:375; MEDITERRANEAN: 1540; and CAN: 169)

Non-Spanish Waters

- Atlantic: Passive Gear (24-40m)
- Other fishing regions: Hooks (0-18m, 24-40m)

Total fishing vessels analysed in the non-Spanish waters listed as 'Imbalanced segments in 2014 Spanish waters': 90 (ATL: 63 and RFO: 27).

For fleet segments listed as 'Imbalanced segments in 2014 Spanish waters', analyses of biological, economic and technical indicators are presented, including conclusions on whether an action plan is required.

Adjustment Targets and Tools

The action plan includes various measures to manage the segments of 'the Spanish operational fishing fleet' identified as imbalanced, including:

- Measures to adjust fleet capacity
- Measures for the management of fishing activities
- Measures to promote fleet competitiveness
- Measures to improve marketing
- Control and fishing effort reduction measures
- Data collection measures

EWG 16-09 considers that in several cases the details provided on the planned measures are unclear. For example, with regards to the 'withdrawal of fishing activities' it is stated that 'aid will be granted to 2017 for the definitive withdrawal of these fleet segments', without specifying which fleet segments is being referred to. With regards to the promotion of voluntary withdrawal it is stated that: 'During 2016, the necessary legal amendments will be made to facilitate voluntary withdrawal from activity by allocating the GT and kw of vessels withdrawn for the construction and modernisation of new units belonging to balanced fleet segments in order to adapt the technical specifications of active vessels or for export'. It is not clear which fleet segments this will apply to, and how this measure will adjust fleet capacity for unbalanced fleet segments. With regards to 'measures for the management of fishing activity' it is stated that 'A study will be continued to assess a ban on temporary or permanent method changes toward these fleet segments', without specifying which fleet segments will be targeted.

EWG 16-09 notes that specific measures for the small-scale fleet are planned, including setting up an artisanal fishery plan and developing participative local development strategies.

EWG 16-09 further notes that the Spanish action plan foresees the establishment of an 'Extraordinary Management Plan' for the Mediterranean fleet for the years 2016-2019, which will include the following measures:

- Establishment of new fishery protection areas.
- Permanent reduction in effort by means of permanent subsidised stoppages of bottom trawling, purse seine and surface longline fleets (2016-2017).
- Temporary reduction in effort by means of temporary subsidised stoppages of bottom trawling, purse seine and surface longline fleets (2016-2019).

Timeframes for Implementation

Timeframes are stated for several of the proposed measures:

- For the allocation of fishing opportunities, the Spanish authorities consider a minimum time period of five years is required for discernible results to be achieved. An evaluation of the results achieved and an analysis of necessary changes in the management system are foreseen from 2018.
- Aid will be granted to 2017 for the definitive withdrawal of certain fleet segments.
- During 2016 the necessary legal amendments will be made to facilitate voluntary withdrawals from activity.

No timeframes are specified for other measures such as measures for the management of fishing activity, measures to promote fleet competitiveness, measures to improve marketing, and control measures including specific measures relating to the small-scale fleet.

Conclusion

The Spanish action plan is based on a detailed assessment of biological, economic and technical indicators, however there are ambiguities in the identification of fleet segments targeted by the action plan. The action plan lists various measures to manage the segments identified as imbalanced by the Spanish authorities, however details on how these measures will be implemented are lacking. For instance, it is stated that state aid will be granted for definitive withdrawal of fleet segments without specifying which fleet segments is being referred to. Precise adjustment targets for the fleet segments listed as imbalanced by the Spanish authorities are not identified, and timeframes for implementation are only provided for a limited number of measures.

5.2.22 Sweden (SWE)

EWG 16-09 notes that no fleet segments were identified by the Member state as showing imbalance and, as such, no action plan was provided.

5.2.23 United Kingdom (GBR)

The UK states in the annual fleet report that they assessed each fleet segment as a combination of indicators and „none of them can be conclusively defined as out of

balance using the full range of indicators available". At the same time, it is highlighted that any excess of established thresholds is a sign of potential imbalances in the given segment. Due to those potential imbalances adjustment measures should be established. As a solution UK has presented an action plan for all segments for which there is a sign that they are not completely in balance, which contains adjustment targets and tools addressed to these segments. The plan is in tabular form and includes each segment with indicator values outside of the recommended thresholds considered to be at risk of imbalance by the UK. The results of biological and economic indicators were used in the action plan as a basis for the assessment but additional information on the technical performance of the segments is provided in Appendix E of the national fleet report.

STECF EWG 16-09 notes that the year of implementation of some of the proposed measures is 2015.

With regards to the impacts of the landing obligation on the balance of the fleet, the UK states that: *"As a result UK fisheries administrations may in the future want to consider the use of permanent and temporary cessation in addition to the existing suite of actions. These measures are not included in the current Fleet Action Plan or Operational Programme, but may be introduced in the future depending on need".*

Indicators and Fleet Segments Considered

All fleet segments that show signs of potential imbalance from an economic or biological point of view for three consecutive years are considered in the UK action plan.

STECF EWG 16-09 notes that there is some inconsistency in the summary information provided for ROI in the table on page 17 of the national report and those for ROI in Appendix E. For example: The ROI values for fleet segment PGP VL 0010 are different from this on page 30 for the same segment.

Adjustment Targets and Tools

The basic targets set out in the UK action plan for achieving balance of the fleet are to adjust the value of indicators that are currently outside of recommended thresholds to bring them within such thresholds (SHI, SAR, ROI, CR/BR).

The adjustment tools presented by the UK are:

- (i) Continue improvement process towards SHI being in balance through observance of TAC/Quota limits designed to bring the stocks involved to MSY, including compliance with regional multi-annual management plans and technical measures where appropriate.
- (ii) Introduction of transition stage to Demersal landing obligation - support increased selectivity measures and of the full requirements of landings obligation in place.
- (iii) Implement requirements as in Regulation 2015/960, in Article 10, Council Regulation 2016/72 and any subsequent requirements under EU legislation and any additional measures identified as necessary as national measures.
- (iv) Improve the state of stocks by observance of TAC limits designed to achieve MSY especially for cod stocks where there are:
 - Limits on entry to fleet segment and effort restrictions;

- Incentives of gear selectivity measures, including the mandatory use of highly selective gears in some sea areas, such as the Irish Sea;
 - Mandatory conservation related measures (Real Time Closures).
- (v) Ancillary benefits from the Cod Recovery regime measures - e.g. conservation and gear selectivity measures; benefits from CFP reform.
- (vi) Support measures in the EMFF Operational Programme are available at preferential match-funding rates, such as assistance for small-scale fleet vessels to meet the requirements of the landing obligation, and on-board safety measures.
- (vii) Continuing support for development of marketing initiatives, including new measures within the EMFF such as the establishment of a small-scale fleet Producer Organisation.

The UK action plan, asserts that the adjustment tools are specific to different fleet segments, and are tailored so that their performance should lead to the achievement of targets (thereby altering indicators to within the recommended thresholds).

Timeframes for Implementation

The timeframe for implementation of the UK action plan is clearly specified. Despite the fact that the implementation of some measures started in 2015 the end date for each stage of achieving the tools is set. Also there is a set deadline for completion of the action plan in its entirety (2020).

Conclusion on Assessment of Proposed Measures

STECF EWG 16-09 notes that on the one hand the UK states that none of the fleet segments, according to the combination of indicators, “can be conclusively defined, as out of balance using the full range of indicators available”. On the other hand, the UK recognises that imbalance potentially exists for some fleet segments. Therefore, the UK has presented an action plan for all segments for which there is potential imbalance and which contains associated adjustment targets and tools. STECF EWG 16-09 supports in principle UK opinion that the exceedance of thresholds is an early warning of a potential imbalance that may require further investigation.

The UK action plan is based on a full assessment of indicators as included in the fleet report. The overall target set by the UK for achieving balance of the fleet is to adjust the value of indicators that are currently outside of recommended thresholds to bring them within specified thresholds. The tools and timeframes for implementation to achieve the targets in the action plan are clearly outlined.

5.3 Discussion on Assessment of Member State Action Plans

EWG 16-09 discussed the integration of the 2013 CFP into Member States’ action plans, particularly where the timeframe of action plans overlaps with the implementation of policy targets, for instance in the case of the landing obligation. EWG 16-09 notes that some Member States as Ireland and the UK have considered this overlap and, as such, included forthcoming policy initiatives (such as the landing obligation) within proposed action plans.

EWG 16-09 notes that there are a number of examples where Member States have concluded that there is no clear demonstration¹⁰ of imbalance, but supporting action plans are still provided.

EWG 16-09 reiterates advice from the STECF-15-02 report stating that “*STECF considers that conclusions as to whether the capacity of a particular fleet segment is in, or out of balance with fishing opportunities cannot reliably be supported without ancillary information*”.

EWG 16-09 notes that the fleet reports and action plans of most Member States considered biological, economic and technical information separately. Integrating all of these sources of information will better inform Member States on the balance between capacity and fishing opportunities at fleet segment level and will inform their decisions on proposals for action plans.

A diverse range of management measures and tools was presented by Member States in their action plans. A summary of the range of measures is provided in Table 5.3.1 below.

Table 5.3.1 - The range of management tools proposed in Member State action plans

Fleet measures	<ul style="list-style-type: none"> - Reduction of the fishing capacity - Permanent cessation of activities - Temporary cessation of activities - Limiting fleet renewals and entries - Capacity ceiling
Technical measures	<ul style="list-style-type: none"> - Increasing selectivity of fishing gear - Mandatory use of highly selective gears
Economic measures	<ul style="list-style-type: none"> - Support for development of marketing initiatives - MSC certification - Identification of market forces resulting in a low price at first sale - Assistance to improve competitiveness
Other measures	<ul style="list-style-type: none"> - Management measures proposed by multi-annual plans - Assistance for adopting requirements of the landing obligation - Assistance for improvement of on- board safety measures - Real Time Closures - Measures to shift relevant quotas - Assistance in vessel modernisation - Improvements in monitoring and control - Introduction of obligatory logbooks for vessels

¹⁰ COM (2014) 545 Final states that “*For the fleet segments with clearly demonstrated imbalance, the Member State concerned shall prepare and include in the report on the balance between fishing capacity and fishing opportunities an action plan....*”

	<p><10 m</p> <ul style="list-style-type: none"> - Installation of GPRS on small scale fishing fleets
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5.4 Conclusions on Assessment of Member State Action Plans

EWG 16-09 notes that there has been an increase in the number of Member State action plans in 2016. The majority of Member States have identified fleet segments which they consider to be imbalanced, or showing potential signs of being imbalanced, using biological, economic or technical indicators and/or supplementary information, and therefore requiring action plans according to Article 22 of the CFP (Regulation 1380/2013). A number of Member State action plans still lacked the required clear adjustment targets, tools or timeframes. Six Member States (Belgium, Estonia, Finland, Greece, The Netherlands and Sweden) concluded that no fleet segments clearly demonstrated imbalance and did not submit action plans. Other Member States (Ireland, Latvia and Lithuania) do not have a new action plan because they are still implementing a previous, longer term action plan. Finally, some Member States presented minor adjustments (Italy, Denmark and Cyprus), while others presented an action plan without identifying any imbalanced fleet segments (Romania).

The translation of the action plans into English needs to be comprehensive and accurate in order for them to be evaluated correctly, including for example the names and/or abbreviations of the fleet segments. The German action plan could not be evaluated due to the poor quality of the translated document provided to EWG 16-09.

Member States are more likely to be able to monitor and demonstrate progress towards the specified management targets if targets are quantitative rather than qualitative. EWG 16-09 notes that specific monitoring plans have been incorporated for the first time by some Member States as a means to observe progress towards proposed management targets, while plans for other Member States have already been implemented.

EWG 16-09 notes that several Member States have incorporated actions relating to the objectives of the CFP, including the landing obligation. The integration of such policy targets into Member States' actions plans demonstrates an integrated and long-term approach to addressing the balance between fishing capacity and opportunities.

Several Member States consider that the balance indicators prescribed by the 2014 Balance Indicator Guidelines do not accurately portray the balance between fishing capacity and fishing opportunities of their fleet segments, and stated that additional information on standard salary levels, fishing activity seasonality and considerations related to part-time fisheries should be taken into account when calculating / assessing indicators and drafting action plans. EWG 16-09 notes that additional guidelines for the preparation of action plans should be incorporated into future guidelines to Member States for the preparation of their annual fleet reports.

EWG 16-09 notes that some Member States (e.g. Malta) have also considered recreational fisheries in their action plans. Although the consideration of recreational fisheries in action plans is not mandatory under Article 22 of the CFP, EWG 16-09 considers this to be relevant since the importance of recreational fisheries is well-known for several stocks (e.g. tuna, salmon, seabass). Indeed, STECF 15-15 suggests that recreational catches should be considered when calculating biological indicators.

6 TOR 3 – COMMENTS ON PROPOSED MEASURES

6.1 Introductory Remarks for TOR 3

In addressing this term of reference the Expert Group adopted a step-wise approach as follows:

1. The action plans submitted together with the 2016 Member States' fleet reports were reviewed to identify any fleet segments were additional to those included in the previous action plan. Such additional segments are listed under "Identification of additional fleet segments" in the sections below relating to each Member State.
2. The information provided in support of the measures proposed for the additional segments was reviewed to ascertain whether such measures are likely to be sufficient to redress any imbalance in the additional segments. Relevant comments are given under "Comments on proposed measures" in the sections relating to each Member State.
3. In some cases, Member States did not present new or revised action plans or has reported on action plans implemented prior to 2016. In such cases the Expert Group has commented accordingly.
4. Any conclusions arising from points 1-3 above review are also listed by Member State

6.2 Comments on Proposed Measures

6.2.1 Belgium (BEL)

Identification of Additional Fleet Segments

No new or revised action plan is presented for the Belgian fleet and no additional fleet segments have been identified for action.

Comments on Proposed Measures

In the absence of any new or revised action plan there are no measures on which to comment.

Conclusion

In the absence of any new or revised action plan there are no conclusions to be drawn.

6.2.2 Bulgaria (BGR)

Identification of Additional Fleet Segments

The Bulgarian Action Plan in the 2016 fleet report is the same as that proposed in the 2015 report and relates to the following vessel length groups:

- Fishing vessels from 0 to 6 m in length, using any type of fishing gear;
- Fishing vessels from 6 to 12 m in length, using any type of fishing gear;

- Fishing vessels from 12 to 18 m in length, using any type of fishing gear;
- Fishing vessels from 18 to 24 m in length, using any type of fishing gear.

As in the 2015 Annual Report and Action plan, the fleet segments considered to be out of balance are not identified by gear group in the 2016 fleet report (Table 6 of the 2016 Bulgarian Action plan). Hence the Expert group was unable to identify how many fleet segments were assessed to be out of balance with their fishing opportunities.

Comments on Proposed Measures

The Bulgaria Action Plan mainly focuses on vessel decommissioning. Furthermore, owners of inactive vessels are to be encouraged to remove such vessels from the fleet register. A 2-step timeframe is proposed with a target for removal of a proportion of vessels by the end of 2017 and a final target date of the end of 2020.

Conclusion

The 2016 Bulgarian Action plan and associated timeframes for implementation are the same as in 2015. The information presented is insufficient to identify the fleet segments that are assessed to be out of balance with their fishing opportunities or whether the proposed measures are sufficient to redress any imbalances.

6.2.3 Croatia (HRV)

Identification of Additional Fleet Segments

Compared to the 2015 Croatian fleet report, the 2016 report does not identify any additional fleet segments that are out of balance with their fishing opportunities and the action plan proposed in the 2016 report relates to the same fleet segments targeted for action in the 2015 fleet report. However, the adjustment targets, tools and timeframes that are proposed for the different DTS and DFN segments have been modified, as a result of reductions in activity of capacity (GTseadays) achieved from 2014-2015.

Comments on Proposed Measures

The measures considered in the 2016 report to redress the imbalance in the all PS and DTS segments are the following:

1. Capacity reduction measures by permanent cessation of fishing activities and reassignment funded through the EMFF;
2. Effort management measures by temporary cessation of fishing activities (through EMFF) and additional temporal and spatial restrictions and limiting the number of days at sea and;
3. Introducing of no-take zone and areas under special management regime;
4. Additional restrictions for PS fleet over 12m.

The capacity reduction targets in the revised (2016 report) action plan relate to reductions in GT only and are intended to be achieved by the end of 2017. The changes in capacity reduction targets in terms of GT in the 2015 and 2016 action plans are given in Table 6.2.3.1.

Table 6.2.3.1. - Comparison of capacity reduction targets (GT%) in the action plans (AP) proposed in the 2015 and 2016 Annual fleet reports for Croatia. Segments for which targets have been revised are shaded

Fleet segment		Capacity reduction targets (GT%)	
		2015 AP	2016 AP
DTS	VL00-06	10%	10%
DTS	VL06-12	29%	29%
DTS	VL12-18	28%	28%
DTS	VL18-24	15%	34%
DTS	VL24-40	10%	35%
PS	VL00-06	20%	20%
PS	VL06-12	20%	20%
PS	VL12-18	36%	29%
PS	VL18-24	19%	23%
PS	VL24-40	12%	19%
PS	VL40XX	0%	0%
Total		17%	24%

It appears that the revisions in the GT reduction targets are based on the 11% reduction in capacity activity expressed as GT days at sea achieved between 2014 and 2015 relative to the estimated 33% reduction in GT days at sea required according to the provisions of GFCM management plan and latest results of stock assessments in the Adriatic. The revised segment-specific reduction targets are essentially derived according to the relative contribution to the overall landings by each segment with an additional 15% reduction allocated to the DTS 24-40 m segment to account for additional restrictions that have been introduced and also because that segment has the biggest influence on the resources in the vicinity of the no-take zone.

Conclusion

The Expert group considers that if the proposed capacity reduction measures are achieved in the intended timescale, they will indeed represent real reductions in fishing capacity in terms of GT but their overall effect in achieving reductions in fishing mortality or in redressing the balance between fishing capacity and fishing opportunities cannot be quantified at this time.

For the other management measures, effort management, no-take zones and additional technical measures, if effectively implemented, they will offer a means to manage capacity utilization and deployment, but their effects in terms of redressing any imbalance between capacity and fishing opportunities also cannot be quantified at present.

6.2.4 Cyprus (CYP)

Identification of Additional Fleet Segments

A revised action plan is presented for the Cypriot fleet in the 2016 fleet report, which includes the fleet segment 'demersal trawlers operating in territorial and international waters'.

The balance assessment presented in the 2016 fleet report concludes that this segment is 'not in balance with the resources it exploits' and that 'an action plan is required'. EWG 16-09 notes that the 2015 fleet report concluded that demersal trawlers operating in both Cypriot and international waters 'is in balance with the resources it exploits'.

Comments on Proposed Measures

The 2016 Cypriot fleet report contains a detailed explanation of the achievements from actions implemented by 2015 under the action plan included for vessels with polyvalent passive gears 0-12m (small scale inshore fishery with category licenses A&B) in the 2015 fleet report. 66 small-scale inshore vessels were permanently withdrawn from the Cypriot fleet by 2016.

The proposed measures to achieve balance for demersal trawlers operating in territorial and international waters include:

- The establishment of fisheries restricted areas;
- Intensifying control measures for trawl activities in territorial waters;
- The consideration of incentives to reduce reliance on demersal stocks fished in territorial waters by increasing fishing effort on demersal species in international waters and large pelagics.

EWG 16-09 notes that the adjustment measures proposed by the Cypriot authorities to adjust fishing capacities to fishing opportunities for demersal trawlers operating in territorial and international waters focus on improving fishing opportunities. No fishing capacity adjustments are foreseen in the Cypriot action plan for this segment.

Conclusions

A revised action plan is presented for the Cypriot fleet.

The 2015 action plan has been implemented and by the end of 2015, 66 small-scale inshore vessels were decommissioned.

The information presented is insufficient to assess whether the proposed measures are sufficient to redress any imbalances by 2020.

6.2.5 Denmark (DNK)

Identification of Additional Fleet Segments

There are no additional fleet segments in comparison to the 2015 action plan.

Comments on Proposed Measures

The 2016 action plan no new measures are proposed compared to the 2015 plan. The plan states that the situation of the fleet is being followed very carefully in order to assess whether there is a need for further action. According to the plan there is no need for immediate action, furthermore the plan states that there is an indication of some improvement with respect to the 2015 fleet report.

Conclusion

Denmark does not present any new segments in the 2016 action plan nor any management measures. The Member State states that the situation is being very carefully followed in order to assess the need for future action.

The information presented in the report and action plan is insufficient to assess whether the proposed measures are likely to redress any imbalances in the fleet segments identified by the Member State in the 2016 action plan that are additional to those identified in the 2015 action plan.

6.2.6 Estonia (EST)

Identification of Additional Fleet Segments

No new or revised action plan is presented for the Estonian fleet and no additional fleet segments have been identified for action.

Comments on Proposed Measures

In the absence of any new or revised action plan there are no measures on which to comment.

Conclusion

In the absence of any new or revised action plan there are no conclusions to be drawn.

6.2.7 Finland (FIN)

Identification of Additional Fleet Segments

No new or revised action plan is presented for the Finnish fleet and no additional fleet segments have been identified for action.

Comments on Proposed Measures

In the absence of any new or revised action plan there are no measures on which to comment.

Conclusion

In the absence of any new or revised action plan there are no conclusions to be drawn.

6.2.8 France (FRA)

Identification of Additional Fleet Segments

Compared to the 2015 French fleet report, the 2016 report identifies 6 additional fleet segments that are out of balance with their fishing opportunities: MGO_VL0010 for Bay of Biscay, DFN_VL0010 and DFN_VL1218 for North Sea East Coast and DTS_VL1218, DTS_1824 and MGO_VL0006 for the Mediterranean Sea. In contrast to the 2015 report, the PS_VL1824 fleet segment in the Mediterranean Sea is no longer considered to be out of balance and is not included in the action plan proposed in the 2016.

Comments on Proposed Measures

The adjustment tools and timeframes that are proposed in the 2016 fleet report are similar to those proposed in the previous report. EWG 16-09 notes that the reduction targets for the permanent cessation of fishing activity in terms of number of vessels, GT and kW in the 2016 action plan are less than those listed in the 2015 action plan (see Table 6.2.8.1).

Table 6.2.8.1. Comparison of capacity reduction targets (Number of vessels, GT and kW) in the action plans (AP) proposed in the 2015 and 2016 Annual fleet reports for France.

			Proposed reduction 2015 AP			Proposed reduction 2016 AP		
Area	Gear	Length	Number	GT	kW	Number	GT	kW
Bay of Biscay	MGO	VL0010				5-6	15	360
	DFN	VL1012	9	117	1,511	5-6	60	750
		VL1218	15	674	3,391	3-4	150	760
		VL1824	1	127	393	1-2	230	700
North Sea East Coast	DFN	VL0010				1	12	60
		VL1012	29	319	5043	11	120	1800
		VL1218 ¹¹				1	12	60
Mediterranean	PS	VL1824	Not increase					
	DTS	VL1824				1	50	240
		VL2440				2	230	620
	DFN	VL0006	5			5		
		VL0612						
	MGO	VL0612						
		VL0006						
Total			59	1,237	10,338	35-39	560	4,010

¹¹ The GT and kW values presented in the report for this fleet segment seems to be not correct

The revisions in the number of vessels and corresponding capacity reduction targets may be partially explained by the change in the estimation methods used by the Member State in the 2015 and 2016 reports.

Furthermore, the Expert group also notes that between 2015 and 2016, 5 vessels were removed from the DFN fleet segment fishing in the Bay of Biscay, which also may account for the lower capacity reduction target in the 2016 action plan.

Conclusion

The information presented in the report and action plan is insufficient to assess whether the proposed measures are likely to redress any imbalances in the fleet segments identified by the Member State in the 2016 action plan that are additional to those identified in the 2015 action plan.

6.2.9 Germany (DEU)

Identification of Additional Fleet Segments

No additional fleet segments have been identified in the updated (2016) German action plan although the timescale for implementation has been modified (see section 5.2.9 of this report).

Comments on Proposed Measures

The late delivery and deficiencies in the translation from German into English did not allow for a further review by the group.

Conclusion

In view of the preceding comment, no conclusions could be drawn.

6.2.10 Greece (GRC)

Identification of Additional Fleet Segments

No new or revised action plan is presented for the Greek fleet and no additional fleet segments have been identified for action.

Comments on Proposed Measures

In the absence of any new or revised action plan there are no measures on which to comment.

Conclusion

In the absence of any new or revised action plan there are no conclusions to be drawn.

6.2.11 Ireland (IRL)

Identification of Additional Fleet Segments

No new or revised action plan is presented for the Irish fleet and no additional fleet segments have been identified for action.

Comments on Proposed Measures

In the absence of any new or revised action plan there are no measures on which to comment.

Conclusion

In the absence of any new or revised action plan there are no conclusions to be drawn.

6.2.12 Italy (ITA)

Identification of Additional Fleet Segments

As in the 2015 Italian action plan, the 2016 action plan relates to fleet segments belonging to the trawl/rapido and PGP 1218 (purse seine & pair trawling) vessel groups.

Regarding the trawl/rapido vessel group, the 2016 action plan identifies 6 additional fleet segments compared to the 2015 action plan. The additional segments are listed in Table 6.2.12.1.

Table 6.2.12.1. - Rapido/trawl fleet segments included in the 2016 Italian action plan that were not included in the 2015 action plan and associated capacity reduction targets.

Fleet segments	GSA	Vessels to be scrapped	GT reduction
VL2440	GSA 9	1.28	122
VL<12	GSA 10	2.24	11
VL2440	GSA 11	2.08	326
VL<12	GSA 17	7.68	1145
VL<12	GSA 18	15.44	90
VL1824	GSA 19	8.24	1199

Table 6.2.12.2 lists the purse seine/pair trawl fleet segment in the 2016 action plan that is additional to those given in the 2015 action plan.

Table 6.2.12.2. Purse seine/pair trawl fleet segments included in the 2016 Italian action plan that were not included in the 2015 action plan and associated capacity reduction targets.

Fleet segments	GSA	Vessels to be scrapped	GT reduction
VL0612	GSAs 17/18	17.46	53

Comments on Proposed Measures

The 2016 Italian action plan proposes to reduce capacity (GT) of the rapido/rawl and purse seine/pair trawl vessel groups by 8%. The equivalent target reductions listed in the 2015 action plan were 7% and 10% respectively.

The capacity reduction targets are expressed in GT and in terms of equivalent numbers of vessels and the means proposed to reach such targets is through vessel decommissioning. Consequently, the reduction targets in GT can only be achieved by scrapping the number of vessels whose combined GT is equivalent to or exceeds the target GT reduction.

Conclusion

Compared to the 2015 action plan, 7 additional fleet segments have been included in the 2016 Italian Action plan.

The information presented in the report and action plan is insufficient to assess whether the proposed measures are likely to redress any imbalances in those fleet segments identified by the Member State in the 2016 action plan that are additional to those identified in the 2015 action plan.

6.2.13 Latvia (LVA)

Identification of Additional Fleet Segments

The 2016 Latvian fleet report does not include a new or revised action plan. However, taking into account the information already provided in the Annual report on the Latvian fishing fleet 2013 and the action plan attached to the report 2013 as well to the 2015 Annual report, Latvia is planning to scrap the entire VL 24-40m Netters segment targeting only Eastern Baltic cod. Such vessels are unable to switch gears to fish for other species.

Comments on Proposed Measures

No comments other than those given in the report from the previous (2015) meeting of this Expert group (STECF 15-15) are warranted because the Action plan for VL 24-40 m netters targeting Eastern Baltic cod is still extant and is the only action plan currently proposed.

Conclusion

Given that Latvia has not provided a new or revised action plan the conclusions of the Expert Group remain the same as those given in STECF 15-15 which were as follows:

"Latvian authorities present a plan to decommission one segment, DFN 24-40, targeting cod stocks in the Baltic Sea. Adjustment targets and tools are specified, while a detailed timeframe for implementation is lacking.

Latvia presents one action plan for one fleet segment without explaining why this segment has been chosen and other segments haven't been chosen. EWG 15-17 notes that further clarification is required by the Member State as to why this decision has been made."

6.2.14 Lithuania (LTU)

Identification of Additional Fleet Segments

The 2016 Lithuanian fleet report does not contain any new or revised action plan and no information on the implementation or outcomes of the action plan contained in the 2015 fleet report is provided.

Comments on Proposed Measures

In the absence of any new action plan there are no measures on which to comment.

Conclusion

In the absence of any new or revised action plan there are no conclusions to be drawn.

6.2.15 Malta (MLT)

Identification of Additional Fleet Segments

In comparison to the 2015 Action Plan where Malta only included actions for the pots and traps segments (and mentioned the polyvalent passive gear, without actions) the 2016 Action Plan includes all sectors excluding purse seiners and hooks over twelve metres. Thus there are many additional fleet segments, including DFN, FPO and all vessels under twelve metres. The Maltese action plan also includes the recreational fisheries segment fishing with hooks for one of the measures.

The 2015 action plan did not include any provision to refrain from issuing new authorisations to fish in the recreational fisheries segment. However, the 2016 action plan contains such a provision and which in fact, was already implemented in 2015.

Comments on Proposed Measures

The measure relating to data collection using a census that was included in the 2015 action plan has already been implemented, and is to be a permanent measure that will be implemented annually.

Additional measures that were not present in the 2015 action plan include the installation of GPRS on all vessels below twelve metres, the establishment of an obligation to fill in logbooks for vessels under ten metres and the recording of all catches through sampling and sales notes.

Spatio-temporal measures include a prohibition of fishing in bays and creeks from 15 February to 30 August with all types of nets, but stocks or ecosystems elements affected are not referred to. There is also a conservation-based closed season for the months of April and May for all pots, which may imply a reduction of deployed effort by this

segment. For a better result in the economic indicators through an increase in income based on higher first sale prices, the action plan suggests the implementation of an innovative traceability system being implemented at national level.

EWG 16-09 notes that the adjustment measures proposed by Malta to adjust fishing capacities to fishing opportunities focus on improving fishing opportunities. No fishing capacity adjustments are foreseen in the Maltese action plan.

Conclusion

The 2016 Maltese action plan is much more complete than the previous one, including more segments and management measures. As explained by the Member State, this was made possible by one of the measures set out in the previous action plan: the implementation of a more comprehensive data collection under a census of all segments.

The information presented in the report and action plan is insufficient to assess whether the proposed measures are likely to redress imbalances in those fleet segments identified by the Member State in the 2016 action plan that are additional to those identified in the 2015 action plan.

6.2.16 Netherlands (NLD)

Identification of Additional Fleet Segments

No new or revised action plan is presented for the Netherlands fleet and no additional fleet segments have been identified for action.

Comments on Proposed Measures

In the absence of any new or revised action plan there are no measures on which to comment.

Conclusion

In the absence of any new or revised action plan there are no conclusions to be drawn.

6.2.17 Poland (PLD)

Identification of Additional Fleet Segments

No new or revised action plan is presented for the Polish fleet and no additional fleet segments have been identified for action.

Comments on Proposed Measures

In the absence of any new or revised action plan there are no measures on which to comment.

Conclusion

In the absence of any new or revised action plan there are no conclusions to be drawn.

6.2.18 Portugal (PRT)

Identification of additional fleet segments

Portugal presents in 2015 two action plans for the segments which the Member State considers to be out of balance with fishing opportunities. The first one is for purse seine (PS) and the second one is for dredge (DRB) fleet segments. Table 6.2.18.1 shows the additional segments from the mainland fleet identified as imbalance in the 2016 action plan presented by Portugal.

Table 6.2.18.1. Additional fleet segments identified as imbalanced in the 2016 Portuguese action plan.

		Number	GT	kW
DFN	VL1824	27	1 807	6 438
DTS	VL1824	7	839	2
	VL2440	67	14 751	36 326
	Total	74	15 590	36 328
HOK	VL2440	29	6 510	12 765
	VL40XX	5	2 910	4 169
	Total	34	9 420	16 934

Comments on Proposed Measures

The proposed adjustment measures for the new segments are expressed in reduction of fishing capacity by:

- 3 vessels from the total of 27 (in 2014)/28 (in 2015) for DFN VL1824 segment;
- 3 vessels from the total of 74 (in 2014)/66 (in 2015) for DTS VL1824 and VL2440 segments;
- 3 vessels from the total of 34 (in 2014)/29 (in 2015) for HOK VL2440 and VL40XX segments.

STECF EWG 16-09 notes that the rationale for the proposed vessel reduction is not described in sufficient detail by the Portuguese authorities. EWG 16-09 is not able to assess whether the implementation of the proposed measures is likely to redress any identified imbalance between capacity and fishing opportunities since the targets for proposed vessel reduction are not supported by a clear rationale for their calculation.

EWG 16-09 notes that implementation of the targets is time-limited (until 31 December 2017) and coincides with the provisions for financial assistance for decommissioning

under the EMFF (Regulation (EU) No 508/2014 of the European Parliament and of the Council of 15 May 2014 on the European Maritime and Fisheries Fund).

Conclusion

The information presented in the report and action plan is insufficient to assess whether the proposed measures are likely to redress any imbalances in those fleet segments identified by the Member State in the 2016 action plan that are additional to those identified in the 2015 action plan.

6.2.19 Romania (ROU)

Identification of Additional Fleet Segments

No new or revised action plan is presented for the Romanian fleet and no additional fleet segments have been identified for action.

Comments on Proposed Measures

In the absence of any new or revised action plan there are no measures on which to comment.

Conclusion

In the absence of any new or revised action plan there are no conclusions to be drawn.

6.2.20 Slovenia (SVN)

Identification of Additional Fleet Segments

No additional fleet segments in the 2016 action plan 2016 were identified by the Slovenian authorities as being out of balance with their fishing opportunities compared to the 2015 action plan.

Comments on Proposed Measures

The adjustment tools that are proposed in action plan 2016 are the same as those in the 2015 action plan.

Conclusion

The information presented in the 2016 report and action plan is insufficient to assess whether the proposed measures are likely to redress any imbalances in those fleet segments identified by the Member State.

6.2.21 Spain (ESP)

Identification of Additional Fleet Segments

The 2016 action plan refers to a '2015 plan (2013 data)', despite the fact that based on the documents available to EWG 16-09 (translated 2015 fleet report and Annex downloaded from the European Commission online fleet register as instructed by the Commission representative), the Spanish fleet report submitted in 2015 does not contain an action plan for fleet segments identified to be imbalanced.

According to the Spanish authorities 'The new approach adopted with regard to the 2015 plan (2013 data) led to BIG DIFFERENCES in imbalanced segments, summarised as an increase in vessels over 3000, but a decrease in GTs (since most come from a better analysis of the artisanal fleet). The 'new imbalanced segments' are listed as being:

Spanish North Atlantic fishing grounds: DTS 12-18 DFN 10-18, PS 18-24, DRB 00-18 and PMP 00-18 in the Gulf of Cadiz, DFN 10-18, HOK 24-40, DRB 00-18 and PMP 00-18).

Mediterranean: DFN 00-18, POG0018, PMP 06-18.

Canary Islands: PMP 00-10 and 00-18 FPO.

Comments on Proposed Measures

The Spanish action plan does not outline specific management measures for the 'new imbalanced segments' listed in the section on 'new aspects of the action plan'. The action plan however gives information on measures to manage the segments of 'the Spanish operational fishing fleet' identified as imbalanced, including:

- Measures to adjust fleet capacity
- Measures for the management of fishing activities
- Measures to promote fleet competitiveness
- Measures to improve marketing
- Control measures and fishing effort
- Data collection measures

EWG 16-09 notes that the majority of adjustment measures proposed by Spain to adjust fishing capacities to fishing opportunities focus on improving fishing opportunities. EWG 16-09 further notes that in several cases the details provided on the planned measures are unclear (see section 5.2.21).

Conclusion

The action plan submitted with the Spanish 2016 fleet report is the first action plan for this Member State available for review at a Balance EWG.

Fleet segments assessed to be out of balance with their fishing opportunities have been identified in the report for the Spanish North Atlantic fishing grounds, the Mediterranean Sea and Canary Islands.

The information presented in the 2016 report and action plan is insufficient to assess whether the proposed measures are likely to redress any imbalances in those fleet segments identified by the Member State.

6.2.22 Sweden (SWE)

Identification of Additional Fleet Segments

The 2016 Sweden fleet report does not include a new or revised action plan but identifies the under 12m passive gear segment as being out of balance with its fishing opportunities.

Comments on Proposed Measures

Proposed actions include reductions in effort and catch restrictions only. All proposed measures are already in place, and there are no additional measures proposed in the action plan. Sweden proposes to introduce a new system to allocate fishing opportunities to the Swedish demersal fisheries in the North Sea in 2017. Such a system will be based on individually-allocated fishing opportunities with the possibility to temporarily transfer between vessels during the year.

EWG 16-09 notes that the adjustment measures proposed by Sweden to adjust fishing capacities to fishing opportunities focus on improving fishing opportunities. No fishing capacity adjustments are foreseen in the Swedish action plan.

Conclusion

The information presented in the report and action plan is insufficient to assess whether the proposed measures are likely to redress any imbalances identified by the Member State.

6.2.23 United Kingdom (GBR)

Identification of additional fleet segments

The total number of the segments included in the 2016 UK action plan is 17, which is 5 more than the 2015 action plan. A total of 7 fleet segments are included in both the 2015 and 2016 action plans. According to the common information included in the UK annual fleet report for the balance indicators, the main reason is that the biological balance indicators were provided on behalf of the Commission by the JRC in 2015 and 2016, while the economic and technical indicators were provided by the Marine Management Organization in the 2016 report and by the JRC in the 2015 fleet report. This has given rise to some differences in the indicator values in the 2016 fleet report compared to 2015.

The fleet segments that are identified in the 2016 action plan that were not in the 2015 action plan are listed in Table 6.2.23.1 below.

Table 6.2.23.1. Additional fleet segments identified as imbalanced in the 2016 UK action plan.

		Number of vessels in 2014	% of total tonnage landed in 2014
DFN	VL0010	625	1,4%
	VL2440	9	1,2%
DTS	VL0010	256	1,5%
	VL1012	86	1,1%
	VL1218	215	5,1%
HOK	VL1012	19	0,1%
TBB	VL0010	3	0,0%
PGP	VL0010	9	0,1%
TM	VL1218	3	0,2%
DTS (OFR)	VL40XX	1	0,4%

Comments on Proposed Measures

The adjustment measures proposed by UK in regards to the additional segments are:

- (i) Continue improvement process towards SHI being in balance through observance of TAC/Quota limits designed to bring the stocks involved to MSY, including compliance with regional multi-annual management plans and technical measures where appropriate.
- (ii) Introduction of transition stage to demersal landing obligation - support increased selectivity measures and of the full requirements of landings obligation in place.
- (iii) Implement requirements as in Regulation 2015/960, in Article 10, Council Regulation 2016/72 and any subsequent requirements under EU legislation and any additional measures identified as necessary as national measures.
- (iv) Improve the state of stocks by observance of TAC limits designed to achieve MSY especially for cod stocks where there are:
 - Limits on entry to fleet segment and effort restrictions;
 - Incentives of gear selectivity measures, including the mandatory use of highly selective gears in some sea areas, such as the Irish Sea;
 - Mandatory conservation related measures (Real Time Closures).
- (v) Ancillary benefits from the Cod Recovery regime measures - e.g. conservation and gear selectivity measures; benefits from CFP reform.
- (vi) Continue improvement process towards SHI being in balance through observance of TAC/Quota limits designed to bring the stocks involved to MSY, including compliance with regional multi-annual management plans and technical measures where appropriate.

- (vii) Support measures in the EMFF Operational Programme are available at preferential match-funding rates, such as assistance for small-scale fleet vessels to meet the requirements of the landing obligation, and on-board safety measures.
- (viii) Continuing support for development of marketing initiatives, including new measures within the EMFF such as the establishment of a small-scale fleet Producer Organisation.

Compared to action plan 2015 UK includes a new adjustment measure - implement requirements as in Regulation 2015/960, in Article 10 of Council Regulation 2016/72 and any subsequent requirements under EU legislation and any additional measures identified as necessary as national measures. The measure is related with monitoring and management of activity related to Sea Bass under EU regulations.

The adjustment tools are specific to different fleet segments, in other words, tools are tailored so that their performance should lead to the achievement of targets (thereby altering indicators to within the recommended thresholds) according to the Member State action plan. EWG 16-09 notes that the adjustment measures proposed by the United Kingdom to adjust fishing capacities to fishing opportunities focus on improving fishing opportunities. No fishing capacity adjustments are foreseen in the UK action plan.

EWG 16-09 notes that the implementation of part of the measures is continued from previous years but detailed information on the action plan progress is not provided.

EWG 16-09 notes that defining specific quantitative indicators for tracking the performance of the adjustment measures are likely to prove useful. In such cases will be possible to monitor the implementation of each specific measure and moreover to observe whether the proposed measures are adequate to solve the problem with imbalance in the segments.

Conclusion

At present, the information presented in the report and action plan is insufficient to assess whether the proposed measures are likely to redress any imbalances identified by the Member State.

6.3 Discussion on Assessment of Proposed Measures

Based on their 2016 fleet reports, France, Italy, Malta, Portugal, Spain, and UK provided new action plans which compared to their 2015 action plans, identified additional fleet segments that they considered to be out of balance with their fishing opportunities. Croatia and Germany provided some revisions to their 2015 action plans related to adjustment targets and/or the timescale for implementation, but did not identify any additional fleet segments. Cyprus, Latvia and Slovenia simply reported on the implementation of their 2015 action plans and Belgium, Bulgaria, Denmark, Estonia, Finland, Greece, Ireland, Lithuania, the Netherlands, Poland, Romania and Sweden did not provide any new or revised action plans.

In general, it was relatively straightforward to identify in Member States' 2016 action plans, those fleet segments that were additional to those included in their 2015 action

plans. However, in accordance with the terms of reference, for Member States for which no new or revised action plans were provided, no comments or conclusions were warranted.

6.4 Conclusions on Assessment of Proposed Measures

In General, while the Expert Group found it relatively straightforward to identify in Member States' 2016 action plans, those fleet segments that were additional to those included in their 2015 action plans, the information presented was only sufficient to note the actions that Member States intend to implement to address any imbalances in the fleet segments identified and was not sufficient to quantitatively assess whether such measures would be sufficient to redress any such imbalances.

Furthermore, EWG 16-09 notes that such a quantitative assessment will not be possible unless the specific objectives of the measures proposed for each of the segments identified as being out of balance are specified by the Member State. Even in such cases, any quantitative assessment is likely to be trivial. For example, if a Member State plans to reduce a segment's capacity by 20% of GT, without a stated objective of how such a measure will redress the imbalance in that segment, the assessment could only conclude the obvious i.e. that removing 20% of GT will result in a 20% reduction in GT. To provide a more informative assessment, the Member State would need to specify what the intended measure is likely to lead to in terms of how it will redress the imbalance they have identified, and that will depend entirely on the nature of the imbalance and which indicators and other factors have been taken into account in determining the imbalance. Nevertheless, because the indicators are not metrics and the judgement as to whether a segment is in or out of balance with its fishing opportunities has to be made taking into account other factors, the potential objectives are almost limitless and in many cases will essentially be impossible to assess in any meaningful quantitative way. Furthermore, measures simply to improve an adverse indicator value will not guarantee that any imbalance, if it truly exists, will be redressed; it will simply mean that the indicator value has improved.

The expert group also considers that previous comments and criticisms on the indicators and criteria specified in the 2014 Balance Indicator Guidelines given in previous balance EWG and STECF reports remain valid and using the indicators in such a way does not necessarily indicate imbalance. Hence, it is not reasonable to expect to be able to provide an informed assessment of whether proposed measures will improve or redress any imbalances identified if despite the indicator values, no such imbalances actually exist.

7 CONTACT DETAILS OF EWG 16-09 PARTICIPANTS

¹ - Information on EWG participant's affiliations is displayed for information only. In any case, Members of the STECF, invited experts, and JRC experts shall act independently. In the context of the STECF work, the committee members and other experts do not represent the institutions/bodies they are affiliated to in their daily jobs. STECF members and experts also declare at each meeting of the STECF and of its Expert Working Groups any specific interest which might be considered prejudicial to their independence in relation to specific items on the agenda. These declarations are displayed on the public meeting's website if experts explicitly authorized the JRC to do so in accordance with EU legislation on the protection of personnel data. For more information: <http://stecf.jrc.ec.europa.eu/adm-declarations>.

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8 LIST OF ANNEXES

Electronic annexes are published on the meeting's web site on:

<https://stecf.jrc.ec.europa.eu/ewg1609>

List of electronic annexes documents:

1. EWG-16-09 – Balance Capacity Tables

9 LIST OF BACKGROUND DOCUMENTS

Background documents are published on the meeting's web site on:

<https://stecf.jrc.ec.europa.eu/ewg1609>

List of background documents:

1. EWG-16-09 – Doc 1 - Declarations of invited and JRC experts (see also section 7 of this report – List of participants)
2. COM(2014) 545 final – Doc 2 - Guidelines for the analysis of the balance between fishing capacity and fishing opportunities according to Art 22 of Regulation (EU) No 1380/2013 of the European Parliament and the Council on the Common Fisheries Policy.

The following STECF reports used as background documents can be found on:

<http://stecf.jrc.ec.europa.eu/reports/balance>

1. 2015-10_STECF 15-15 - Balance capacity_JRC97991.pdf
2. 2015-10_EWG 15-17 - SHI supplementary data.xlsx
3. 2015-10_EWG 15-17 - Balance Indicators by Fleet Segments.xlsx
4. 2015-02_STECF 15-02 - Balance capacity_JRC94933.pdf
5. 2015-02_STECF 15-02 - Balance capacity all tables.xlsx
6. 2014-06_STECF 14-09 - Balance indicators_JRC90403.pdf
7. 2014-06_STECF 14-09 - Balance indicators_all tables_JRC90403.zip
8. 2013-11_STECF 13-28 - Balance capacity_JRC86350.pdf
9. 2013-04_STECF 13-08 - Balance indicators_JRC81659.pdf
10. 2012-11_STECF 12-18 Balance capacity_JRC76704.pdf
11. 2011-11_STECF 11-17 - Balance capacity and fishing opportunities_JRC67795.pdf
12. 10-09_SG-BRE 10-01 - Fleet capacity and fishing opportunities_JRC61983.pdf

10 ANNEX I - SUMMARY OF INDICATOR ISSUES AND ASSOCIATED COMMENTS AND PROPOSALS

Sustainable harvest indicator (SHI)	<p>1. The indicator guidelines state that an SHI value above one could be an indication of imbalance if it has occurred for three consecutive years. This criterion may be interpreted as not being in line with the CFP, where it is stated: <i>"The maximum sustainable yield exploitation rate shall be achieved by 2015 where possible and, on a progressive, incremental basis at the latest by 2020 for all stocks."</i> Therefore, before 2020 an SHI indicator above 1 may reflect the outcome of political decisions to reach F_{MSY} not immediately, but by 2020.</p>	<p>1. Issue cannot be addressed without changing the guidelines. EWG 16-09 reaffirms the need for a dedicated EWG to revise indicator guidelines.</p>
	<p>2. Proposals for fishery management plans in the ICES area are currently taking into account F_{MSY} ranges; it is thus likely that F_{MSY} ranges which will serve as the basis for future management. SHI calculations are at present based on point estimates of F_{MSY}. SHI calculations could in future be revised to reflect the use of F_{MSY} ranges in management plans, a scenario for which the guidelines state: <i>'Where F_{msy} is defined as a range, exceeding the upper end of the range is interpreted as "overfishing"'</i>. It follows that if F_{MSY} ranges instead of point estimates are used, this will have a substantial impact on SHI values because the upper limit of the F_{MSY} range is often considerably higher than</p>	<p>2. EWG 16-09 indicator preparatory meeting looked into this issue and concluded that F_{MSY} ranges had not been adopted as the basis for management for any stocks in the ICES area by the 30th June 2016 (the cut-off date for the inclusion of new data the EWG 16-09 indicator preparatory meeting worked with).</p>

	the F_{MSY} point estimate.	
	3. The SHI may deliver a value of more than 1 for fleet segments which are not overcapacity with regards to their short term legally permitted harvest opportunities, i.e. fishing opportunities based on short term TACs.	3. Issue cannot be addressed without changing guidelines EWG 16-09 reaffirms the need for a dedicated EWG to revise indicator guidelines.
	4. The SHI, used in isolation to assess whether a particular fleet segment is in balance with its fishing opportunities could be misleading because it does not provide results about the extent to which a fleet segment relied on over-harvested stocks and secondly, does not provide any indication as to the overall contribution a fleet segment makes to the overall catch from an over-harvested stock.	4. Issue considered in STECF 15-15 (section 3.8 – 'Proposed Biological Indicators and Evaluation Tool'); STECF 15-15 proposal cannot be implemented without changing guidelines. EWG 16-09 reaffirms the need for a dedicated EWG to revise indicator guidelines.
	5. The SHI may deliver a value of less than 1 for fleet segments which partly rely on individual stocks harvested at rates above F_{MSY} .	5. Issue considered in STECF 15-15 (section 3.8 – 'Proposed Biological Indicators and Evaluation Tool'); STECF 15-15 proposal cannot be implemented without changing guidelines. EWG 16-09 reaffirms the need for a dedicated EWG to revise indicator guidelines.
	6. The SHI may flag problems with a certain fleet segment despite the fact that the main problem lies with another fleet segment, which in turn may not necessarily be flagged.	6. Issue considered in STECF 15-15 (section 3.8 – 'Proposed Biological Indicators and Evaluation Tool'); STECF 15-15 proposal cannot be implemented without changing guidelines. EWG 16-09 reaffirms the need for a dedicated EWG to revise indicator guidelines.
	7. SHI values calculated for different fleet segments may not be comparable. Small vessels in particular frequently harvest only a	7. Issue considered in STECF 15-15 (section 3.8 – 'Proposed Biological Indicators and Evaluation Tool'); STECF 15-15 proposal

	low number of stocks, leading to a high SHI when one of these stocks is overharvested. Fleet segments with larger vessels on the other hand generally fish more stocks in different areas. Therefore, their SHI is less sensitive to the overexploitation of particular stocks, and problems may be masked.	cannot be implemented without changing guidelines. EWG 16-09 reaffirms the need for a dedicated EWG to revise indicator guidelines.
Stocks at Risk (SAR)	1. According to the 2014 indicator guidelines (COM(2014) 545 final), 'if a fleet segment takes more than 10% of its catches from a stock which is at risk, this could be treated as an indicator of imbalance'. The Expert Group considers that this is not necessarily true, but it can be used to indicate that a fleet segment may be worthy of further investigation to determine whether it is not in balance with its fishing opportunities.	1. Issue cannot be addressed without changing guidelines EWG 16-09 reaffirms the need for a dedicated EWG to revise indicator guidelines.
	2. The indicator guidelines state that B_{lim} should be taken as threshold below which stocks are counted as stocks at risk. The definition in the CFP in Article 4 (18) for "inside safe biological limits" is: " <i>Stock within safe biological limits' means a stock with a high probability that its estimated spawning biomass at the end of the previous year is higher than the limit biomass reference point (B_{lim})</i> ". However, to monitor the performance of the common fisheries policy (see Article 50	2. Issue cannot be addressed without changing guidelines. EWG 16-09 reaffirms the need for a dedicated EWG to revise indicator guidelines.

	<p>of 1380/2013) the Commission has defined “outside safe biological limits” as SSB less than B_{pa} (where B_{pa} is defined), OR F is greater than F_{pa} (where F_{pa} is defined)¹². To take the deterministic or median assessment values for SSB and contrast them with the B_{lim} reference point may be inconsistent with the criteria of “high probability” and the definition used to monitor the CFP. B_{pa} could be seen as more appropriate threshold since B_{pa} is the SSB that gives a high probability to be above B_{lim} given the uncertainties in stock assessments in the terminal year.</p>	
	<p>3. The current 10% threshold is arbitrary and has not been tested. A sensitivity analysis, using different percentage thresholds as a cut-off point in order to investigate the impact of different thresholds needs to be undertaken.</p> <p>In addition, currently only landings from EU fleets are used to calculate whether the landings of a certain fleet segment comprise more than 10% of the overall landings. The impact of EU fleets on stocks that are shared with non-EU countries may therefore be overestimated.</p>	<p>3. The EWG 16-09 indicator preparatory meeting discussed the possibility of testing threshold using new R code, and providing EWG 16-09 SAR indicators based on e.g. 3 different thresholds. Ultimately this issue can only be addressed by changing the guidelines.</p> <p>EWG 16-09 supports the proposal for a database which contains all data and information required for calculation of biological indicators (including catch data from non-EU countries), and which is updated every year (see section 3.5.1.3, STECF 15-15).</p>
	<p>4. With the exception of stocks assessed as</p>	<p>4. EWG 16-09 indicator preparatory meeting</p>

¹² Scientific, Technical and Economic Committee for Fisheries (STECF) – Monitoring the performance of the Common Fisheries Policy (STECF-15-04). 2015. Publications Office of the European Union, Luxembourg, EUR XXXX EN, JRC XXXX, 147 pp.

	being below the B_{lim} biological level, identifying and categorizing 'stocks at risk' is subjective due to a range of terminology used in stock advice. The Expert Group suggests in future to provide two versions of the SAR; one based on B_{lim} values (criterion a) and a second based on criteria b-d given in the Guidelines (COM (2014) 545 FINAL).	discussed this issue, in particular with regards to the interpretation of criterion b for Mediterranean stocks. Ultimately this issue cannot be addressed without changing guidelines. EWG 16-09 reaffirms the need for a dedicated EWG to revise indicator guidelines.
	5. In order to consider IUCN data in future (criterion d), the precise IUCN categories to be included in the SAR indicator calculations need to be agreed with the Commission.	5. EWG 16-09 indicator preparatory meeting discussed the issue of IUCN categories. The EWG 16-09 Prep. Meeting agreed with the approach taken by the expert selecting SAR to only consider species with a Critically Endangered (CR) status. Ultimately this issue cannot be addressed without changing guidelines. EWG 16-09 reaffirms the need for a dedicated EWG to revise indicator guidelines.
	6. In addition to the IUCN Red List and CITES, species lists from other conventions (e.g. OSPAR and CMS, Barcelona Convention, etc.) could in future be considered. A time consuming data gathering exercise would be necessary to include all these listings; such an exercise should be separated from the actual calculation of the indicator.	6. Issue cannot be addressed without changing guidelines. EWG 16-09 reaffirms the need for a dedicated EWG to revise indicator guidelines.
Economic & technical indicators - general	1. Inconsistent clustering of fleet segments over time makes the interpretation of economic indicators for such clusters problematic.	1. Probable cases of inconsistent clustering were flagged during AER 1 and the EWG 16-09 indicator preparatory meeting was informed that some MS were able to improve on this. EWG 16-09 indicator preparatory meeting considers that it may not always

		possible to have consistent clusters, unless 'fake' or super clusters are used (which should not be encouraged). Moreover, the composition of fleet segments is always changing due to the 'dominance criteria' (listed in Commission Decision 2008/949/EC; Annex I, section A2.2), so there are inherent inconsistencies even when not considering clusters. EWG 16-09 is currently unable to propose a solution to the issue of inconsistent clustering.
	2. Assessment of economic and technical indicators for small scale fleet segments is challenging. Economic indicators are generally calculated based on the assumption that fishing is the main economic activity of the fleet segments being assessed. This is often not the case for small-scale fishing fleets where fishing is often only a supplementary source of income.	2. EWG 16-09 considers that economic and technical indicators for small-scale fleet segments should always be interpreted with caution, and that local expert knowledge is generally required to accurately interpret indicator results/trends.
Return on Investment (ROI) and/or Return on Fixed Tangible Assets (RoFTA)	1. With regards to the application of the long term economic indicator ROI or RoFTA, the 2014 Balance Indicator Guidelines specify that the indicator is to be compared against the 'low risk long term interest rate'. The guidelines further suggest to use the ' <i>use the arithmetic average interest rate for the previous 5 years</i> '. Balance EWGs take this approach and e.g. the STECF 15-02 specifies that the ' <i>5-year average of the risk free long-term interest rate for each MS was used</i> '. On the other hand, the Annual Economic Report	1. EWG 16-09 indicator preparatory meeting notes that the lack of homogeneity in the methodology to estimate ROI and/or RoFTA by Balance EWGs (which use the approach given in the Commission guidelines) and the AER process was considered in detail by the 2016 AER meeting. It appears that the issue cannot be addressed without changing the Balance guidelines. EWG 16-09 reviewed the AER recommendations and reaffirms the suggestion for a dedicated EWG to revise indicator guidelines.

	(AER) 2015 uses the 'real interest rate'.	
Ratio between current revenue and break-even revenue (CR/BER)	1. Presentation / interpretation of trends: due to the volatile nature of variable costs associated with fishing, the CR/BER indicator values may fluctuate considerably from one year to the next and commenting on trends which may be driven by the price of fuel for instance, does not necessarily help inform an assessment of fleet under- or over-capacity in relation to fishing opportunities.	2. EWG 16-09 indicator preparatory meeting considers that whilst short term volatility is informative, in the long-term it is not. Moreover, the long-term approach overlaps with ROI or RoFTA. The long-term approach suggested in the guidelines should thus not be used and the EWG 16-09 balance indicator tables will as a result only present the short-term approach. EWG 16-09 reaffirms the need for a dedicated EWG to revise indicator guidelines.
Inactive Fleet Indicators	1. In some MS (esp. in the Mediterranean) there is high 'inactivity' for various reasons: many small vessels only operate part time / on a seasonal basis; fishers may own several boats, some of which are used as stand-by vessels for various reasons (see Finland / Italy /Malta 2015 annual reports).	1. EWG 16-09 considers that technical indicators always be interpreted with caution, and that local expert knowledge is generally required to accurately interpret indicator results/trends. This is in particular the case for small-scale fleet segments.
Vessel Use Indicator	1. Data on maximum days at sea (DAS) is not always submitted by MS, in which case a common theoretical maximum DAS of 220 days is used. The use of a theoretical DAS of 220 is not relevant for some fleet segments, in particular where fishing activities are seasonal.	1. STECF 15-15 considers that the use of a default value of 220 DAS to be used if no data on the maximum observed DAS is available should not be applied to vessels which measure less than 12 m in length. A clear methodology on how to calculate maximum DAS should be provide to MS to facilitate the calculation of correct values of maximum DAS. EWG 16-09 indicator preparatory meeting notes that an effort to standardise the calculation of DAS as well as fishing days was made by the second transversal variables workshop held in

		Nicosia in February 2016 (see Annex 5, Ribeiro et al., 2016). EWG 16-09 considers that this proposal should be reviewed at a dedicated EWG to revise indicator guidelines.
	2. In some MS vessel use within fleet segments is not homogenous because only parts of the fleet are fishing full time for various reasons (e.g. fleet segments include a proportion of part-time fishers; older vessels being inactive during periods of maintenance or repair, breaks imposed on parts of fleet segments due to management measures with some vessels compensating by targeting other stocks and others remaining inactive).	2. EWG 16-09 considers that technical indicators always be interpreted with caution, and that local expert knowledge is generally required to accurately interpret indicator results/trends. This is in particular the case for small-scale fleet segments.

11 ANNEX II – PERCENTAGE OF TOTAL LANDINGS DATA (VALUES) SUBMITTED BY MEMBER STATES FOR WHICH ONLY INFORMATION FOR AGGREGATED SPECIES GROUPS IS AVAILABLE

Country	Prop. landing value (%)	List of Species Groups
BEL	6.68	Anglerfishes nei; Atlantic redfishes nei; Catsharks, nursehounds nei; Clams, etc. nei; Common squids nei; Demersal percomorphs nei; Gadiformes nei; Inshore squids nei; Jack and horse mackerels nei; Marine crustaceans nei; Marine fishes nei; Megrims nei; Octopuses nei; Pelagic percomorphs nei; Raja rays nei; Smooth-hounds nei; Various sharks nei; Wrasses, hogfishes, etc. nei
CYP	15.86	Barracudas nei; Catsharks, etc. nei; Common squids nei; Cuttlefishes nei; Dogfishes nei; Dogfish sharks nei; Flatfishes nei; Forkbeards nei; Groupers nei; Guitarfishes nei; Gurnards, searobins nei; Herrings, sardines nei; Houndsharks, smoothhounds nei; Jack and horse mackerels nei; Lizardfishes nei; Marine crabs nei; Marine fishes nei; Meagres nei; Monkfishes nei; Mulletts nei; Needlefishes, etc. nei; Octopuses, etc. nei; Octopuses nei; Palinurid spiny lobsters nei; Penaeid shrimps nei; Penaeus shrimps nei; Picarels nei; Rays and skates nei; Sardinellas nei; Sargo breams nei; Scomber mackerels nei; Scorpionfishes, rockfishes nei; Slipper lobsters nei; Spinefeet(=Rabbitfishes) nei; Squids nei; Squirrelfishes nei; Stingrays, butterfly rays nei; Stingrays nei; Weeverfishes nei; Wrasses, hogfishes, etc. nei
DEU	4.93	Anglerfishes nei; Atlantic redfishes nei; Crangon shrimps nei; Dogfish sharks nei; Freshwater breams nei; Freshwater fishes nei; Jack and horse mackerels nei; Lefteye flounders nei; Megrims nei; Mulletts nei; Raja rays nei; Rays, stingrays, mantas nei; Surmulletts(=Red mullets) nei; Trouts nei; Various squids nei; Wolffishes(=Catfishes) nei
DNK	0.65	Atlantic redfishes nei; Finfishes nei; Freshwater fishes nei; Gobies nei; Gurnards nei; Marine crabs nei; Mulletts nei; Rays and skates nei; Scallops nei; Seabasses nei; Sepiolidae, Cuttlefish, bobtail squids nei; Starfishes nei; Wolffishes(=Catfishes) nei
ESP	9	Alfonsinos, etc. nei; Alfonsinos nei; Alloteuthis spp; Amberjacks nei; Anchovies etc. nei; Anchovies nei; Angelsharks , sand devils nei; Anglerfishes nei; Antarctic rockcods, noties nei; Aphanopus spp; Aquatic invertebrates nei; Aristeid shrimps nei; Aristeus shrimps nei; Atlantic gobies nei; Atlantic puffers nei; Atlantic redfishes nei; Barracudas, etc. nei; Barracudas nei; Bastard halibuts nei; Bathyraja rays nei; Belone spp; Bigeyes, glasseyes, bulleyes nei; Bigeyes nei; Boarfishes nei; Bonitos nei; Boxfishes nei; Brachioteuthis spp; Brama spp; Butterfishes, pomfrets nei; Butterfly rays nei; Carangids nei;

		<p> Carcharhinus sharks nei; Carcinus crabs nei; Cardinalfishes etc. nei; Cartilaginous fishes nei; Catsharks, etc. nei; Catsharks, nursehounds nei; Cephalopods nei; Citharids nei; Clams, etc. nei; Cockles nei; Combers nei; Common squids nei; Conger eels, etc. nei; Conger eels nei; Crangon shrimps nei; Crest-tail catsharks nei; Cubiceps spp; Cuttlefishes nei; Daggerhead breams nei; Deania dogfishes nei; Deep-sea crabs, geryons nei; Deep-water sharks nei; Demersal percomorphs nei; Dentex nei; Diadromous fishes nei; Dogfishes nei; Dogfish sharks, etc. nei; Dogfish sharks nei; Dories nei; Drums nei; Eagle rays nei; Electric rays nei; Filefishes, leatherjackets nei; Filefishes nei; Finfishes nei; Flabellum cup corals nei; Flatfishes nei; Flyingfishes nei; Flying squids nei; Forkbeards nei; Gadiformes nei; Galatea spp; Gastropods nei; Geryons nei; Goatfishes, red mullets nei; Gobies nei; Grenadiers nei; Groundfishes nei; Groupers nei; Groupers, seabasses nei; Grunts, sweetlips nei; Guitarfishes, etc. nei; Gulper sharks nei; Gurnards nei; Gurnards, searobins nei; Hairtails nei; Hakes nei; Halfbeaks nei; Hammerhead sharks nei; Herrings, sardines nei; Homarus spp; Houndsharks, smoothhounds nei; Icefishes nei; Inshore squids nei; Jack and horse mackerels nei; Jacks, crevalles nei; Jobfishes nei; Johnius spp; King crabs nei; King crabs, stone crabs nei; Lanternsharks nei; Lefteye flounders nei; Limpets nei; Lings nei; Lizardfishes nei; Liza spp; Lobsters nei; Mackerel sharks, porbeagles nei; Mackerels nei; Macoma spp; Mactra surf clams nei; Maja spider crabs nei; Marine crabs nei; Marine crustaceans nei; Marine fishes nei; Marine molluscs nei; Marlins, sailfishes, etc. nei; Meagres nei; Megrims nei; Menhadens nei; Metanephrops nei; Metapenaeus shrimps nei; Mojarras (=Silver-biddies) nei; Monkfishes nei; Moras nei; Mugil spp; Mulletts nei; Natantian decapods nei; Needlefishes, etc. nei; Needlefishes nei; Northern cods nei; Nototodarus flying squids nei; Nurse sharks nei; Octopuses, etc. nei; Octopuses nei; Pacific salmons nei; Pacific shrimps nei; Palaemonid shrimps nei; Palaemon shrimps nei; Palinurid spiny lobsters nei; Pandalid shrimps nei; Pandalopsis shrimps nei; Pandalus shrimps nei; Pandoras nei; Paralabrax spp; Parapenaeopsis shrimps nei; Parapenaeus shrimps nei; Pargo breams nei; Pelagic fishes nei; Penaeid shrimps nei; Penaeus shrimps nei; Percoids nei; Picarels, etc. nei; Picarels nei; Plesionika shrimps nei; Pomfrets, ocean breams nei; Pompanos nei; Porgies, seabreams nei; Portunus swimcrabs nei; Precious corals nei; Psammobatis sand skates nei; Puffers nei; Rainbow sardines nei; Raja rays nei; Rays and skates nei; Rays, stingrays, mantas nei; Razor clams, knife clams nei; Razor clams nei; Requiem sharks nei; Righteye flounders nei; River eels nei; Rocklings nei; Rosefishes nei; Ruffs, barrelfishes nei; Sand smelts nei; Sardinellas nei; Sargo breams nei; Sauries nei; Scads nei; Scomber mackerels nei; Scorpionfishes nei; Scorpionfishes, rockfishes nei; Sculpins nei; Sculptured shrimps nei; Scyliorhinidae, Dogfishes and hounds nei; Seabasses nei; Sea chubs nei; Sea cucumbers nei; Sea mussels nei; Sea urchins, etc. nei; Sea urchins nei; Seaweeds nei; Sepiolidae, Cuttlefish, bobtail squids nei; Sharks, rays, skates, etc. nei; Sharpnose sharks nei; Shortfin squids nei; Silver pomfrets nei; Silversides (=Sand smelts) nei; Slimeheads nei; Slipper </p>
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		lobsters nei; Smooth-hounds nei; Snake mackerels, escolars nei; Snappers nei; Snipefishes nei; Solea spp; Solenocerid shrimps nei; Soles nei; Spadefishes nei; Spearfishes nei; Spear lobsters nei; Spiny lobsters nei; Spiny turbot nei; Spirulina nei; Squids nei; Squillids nei; Steenbrasses nei; Surf clams nei; Surmullet(=Red mullets) nei; Swimcrabs nei; Swimming crabs, etc. nei; Symphodus wrasses nei; Tellins nei; Threadfins, tasselfishes nei; Thresher sharks nei; Tilefishes nei; Toadfishes nei; Tonguesole nei; Trachypenaeus spp,Pacific seabobs; Triggerfishes, durgons nei; Trisopterus nei; Trumpeters nei; Turbot nei; Tuskfishes nei; Urophycis nei; Various sharks nei; Various squids nei; Venus clams nei; Volutes nei; Weakfishes nei; Weeverfishes nei; Weevers nei; West African croakers nei; Whip lobsters nei; Whitefishes nei; Wolffishes(=Catfishes) nei; Wrasses, hogfishes, etc. nei
FIN	6.37	Trouts nei; Whitefishes nei
FRA	13.66	Alfonsinos nei; Amberjacks nei; Atlantic gobies nei; Atlantic redfishes nei; Barracudas nei; Bigeyes nei; Bonitos nei; Carangids nei; Carpet shells nei; Catsharks, etc. nei; Catsharks, nursehounds nei; Cephalopods nei; Clupeoids nei; Combers nei; Crest-tail catsharks nei; Cupped oysters nei; Dogfish sharks nei; Emperors(=Scavengers) nei; Flat and cupped oysters nei; Flatfishes nei; Forkbeards nei; Freshwater fishes nei; Gadiformes nei; Gastropods nei; Grenadiers nei; Groupers nei; Gurnards, searobins nei; Hairtails, scabbardfishes nei; Herrings, sardines nei; Inshore squids nei; Jack and horse mackerels nei; Lanternsharks nei; Lefteye flounders nei; Lobsters nei; Mackerels nei; Marine crabs nei; Marine crustaceans nei; Marine fishes nei; Marlins,sailfishes,etc. nei; Megrims nei; Monkfishes nei; Mugil spp; Mytilus spp; Natantian decapods nei; Octopuses, etc. nei; Pandoras nei; Pargo breams nei; Penaeus shrimps nei; Picarels nei; Porgies, seabreams nei; Ratfishes nei; Rays and skates nei; Rays, stingrays, mantas nei; Razor clams nei; Righteye flounders nei; Rocklings nei; Sargo breams nei; Scorpionfishes, rockfishes nei; Scyliorhinidae,Dogfishes and hounds nei; Seabasses nei; Sea urchins, etc. nei; Seaweeds nei; Seerfishes nei; Sepiolidae,Cuttlefish, bobtail squids nei; Shortfin squids nei; Silversides(=Sand smelts) nei; Smooth-hounds nei; Snappers nei; Soles nei; Spiny lobsters nei; Squillids nei; Stingrays, butterfly rays nei; Surmullet(=Red mullets) nei; Tellins nei; Triggerfishes, durgons nei; True lobsters,lobsterettes nei; True tunas nei; Tunas nei; Various sharks nei; Various squids nei; Wrasses, hogfishes, etc. nei
GBR	10.25	Alfonsinos nei; Anglerfishes nei; Atlantic redfishes nei; Catsharks, etc. nei; Clams, etc. nei; Common squids nei; Cupped oysters nei; Dogfish sharks nei; Flatfishes nei; Groundfishes nei; Gurnards, searobins nei; Jack and horse mackerels nei; Marine crabs nei; Marlins,sailfishes,etc. nei; Megrims nei; Mullet nei; Octopuses, etc. nei; Palinurid spiny lobsters nei; Pandalus shrimps nei; Penaeus shrimps nei; Periwinkles nei; Porgies, seabreams nei; Raja rays nei; Razor clams nei; Rocklings nei; Scyliorhinidae,Dogfishes and

		hounds nei; Sea urchins nei; Sepiolidae,Cuttlefish, bobtail squids nei; Surf clams nei; Thresher sharks nei; Triggerfishes, durgons nei; Various sharks nei; Various squids nei; Weeverfishes nei; Wolffishes(=Catfishes) nei; Wrasses, hogfishes, etc. nei
GRC	3.66	Atlantic gobies nei; Gurnards, searobins nei; Jack and horse mackerels nei; Mulletts nei; Raja rays nei; Scorpionfishes, rockfishes nei; Smooth-hounds nei; Wrasses, hogfishes, etc. nei
HRV	7.67	Catsharks, nursehounds nei; Cephalopods nei; Clams, etc. nei; Dogfish sharks nei; Forkbeards nei; Gastropods nei; Groundfishes nei; Groupers nei; Gurnards, searobins nei; Jack and horse mackerels nei; Marine crustaceans nei; Marine fishes nei; Megrims nei; Monkfishes nei; Mulletts nei; Pelagic fishes nei; Picarels nei; Raja rays nei; Righteye flounders nei; Scallops nei; Sea urchins, etc. nei; Sepiolidae, Cuttlefish, bobtail squids nei; Various squids nei; Weevers nei
IRL	16.09	Anglerfishes nei; Boarfishes nei; Catsharks, etc. nei; Clams, etc. nei; Common squids nei; Conger eels nei; Dogfishes nei; Dogfish sharks nei; Dories nei; Gurnards, searobins nei; Jack and horse mackerels nei; Mackerels nei; Megrims nei; Mulletts nei; Palaemonid shrimps nei; Palinurid spiny lobsters nei; Pandalus shrimps nei; Penaeus shrimps nei; Periwinkles nei; Porgies, seabreams nei; Raja rays nei; Rays and skates nei; Rays, stingrays, mantas nei; Razor clams, knife clams nei; Scallops nei; Scyliorhinidae,Dogfishes and hounds nei; Seabasses nei; Sepiolidae,Cuttlefish, bobtail squids nei; Sharks, rays, skates, etc. nei; Soles nei; Swimming crabs, etc. nei; Various sharks nei; Various squids nei; Wolffishes(=Catfishes) nei; Wrasses, hogfishes, etc. nei
ITA	12.37	Alloteuthis spp; Dentex nei; Gastropods nei; Gobies nei; Groupers, seabasses nei; Gurnards, searobins nei; Hammerhead sharks nei; Jack and horse mackerels nei; Marine crabs nei; Marine crustaceans nei; Marine fishes nei; Marine molluscs nei; Marlins,sailfishes,etc. nei; Monkfishes nei; Mulletts nei; Raja rays nei; Rays, stingrays, mantas nei; Sargo breams nei; Scallops nei; Scomber mackerels nei; Scorpionfishes nei; Sharks, rays, skates, etc. nei; Silversides(=Sand smelts) nei; Stingrays, butterfly rays nei; Turbots nei; Venus clams nei; Weeverfishes nei
LTU	4.3	Alfonsinos nei; Barracudas nei; Dories nei; Gobies nei; Hairtails, scabbardfishes nei; Hakes nei; Jack and horse mackerels nei; Mulletts nei; Porgies, seabreams nei; Sardinellas nei; Trouts nei
LVA	2.05	Marine fishes nei
MLT	3	Croakers, drums nei; Dogfishes nei; Forkbeards nei; Groupers nei; Gurnards nei; Marine fishes nei; Mulletts nei; Picarels nei; Raja rays nei; Scorpionfishes, rockfishes nei; Wrasses, hogfishes, etc. nei
NLD	0.87	Anglerfishes nei; Catsharks, etc. nei; Catsharks, nursehounds nei; Common squids nei; Dogfish sharks, etc. nei; Hairtails, scabbardfishes nei; Jack and horse mackerels nei; Marine fishes nei; Marine molluscs nei; Megrims nei; Mugil spp; Mulletts nei; Penaeus shrimps nei; Periwinkles nei; Porgies, seabreams nei;

		Rays and skates nei; Rays, stingrays, mantas nei; Razor clams nei; Scyliorhinidae, Dogfishes and hounds nei; Seabasses nei; Smooth-hounds nei; Soles nei; Various sharks nei; Various squids nei; Weevers nei; Wolffishes(=Catfishes) nei; Wrasses, hogfishes, etc. nei
POL	0.91	Freshwater fishes nei; Gobies nei; Marine fishes nei; Pelagic fishes nei
PRT	8.02	Abalones nei; Alfonsinos nei; Alloteuthis spp; Amberjacks nei; Anglerfishes nei; Atlantic gobies nei; Atlantic redfishes nei; Barracudas nei; Bodianus spp; Carangids nei; Catsharks, nursehounds nei; Combers nei; Common squids nei; Cupped oysters nei; Deania dogfishes nei; Flyingfishes nei; Forkbeards nei; Gastropods nei; Grenadiers, rattails nei; Groupers nei; Groupers, seabasses nei; Guitarfishes nei; Gurnards nei; Hairtails, scabbardfishes nei; Hammerhead sharks nei; Jack and horse mackerels nei; Jacks, crevalles nei; Lefteye flounders nei; Limpets nei; Marine crustaceans nei; Marine fishes nei; Marlins, sailfishes, etc. nei; Meagres nei; Megrimms nei; Monkfishes nei; Mugil spp; Muraena spp; Mytilus spp; Natantian decapods nei; Octopuses, etc. nei; Octopuses nei; Pandalid shrimps nei; Pandalus shrimps nei; Pargo breams nei; Picarels nei; Plesionika shrimps nei; Pomadasys spp; Porgies, seabreams nei; Portunus swimcrabs nei; Raja rays nei; Rocklings nei; Sargo breams nei; Scorpionfishes nei; Scorpionfishes, rockfishes nei; Seabasses nei; Seerfishes nei; Smooth-hounds nei; Snappers, jobfishes nei; Snappers nei; Solea spp; Spiny lobsters nei; Squids nei; Stingrays nei; Surmulletts(=Red mullets) nei; Tonguesole nei; Triggerfishes, durgons nei; Weevers nei; West African croakers nei; Wolffishes(=Catfishes) nei
ROU	0.87	Gobies nei
SVN	2.41	Anglerfishes nei; Barracudas nei; Gurnards, searobins nei; Jack and horse mackerels nei; Mulletts nei; Picarels nei; Smooth-hounds nei; Weevers nei
SWE	0.38	Atlantic redfishes nei; Inshore squids nei; Marine fishes nei; Octopuses, etc. nei; Whitefishes nei; Wolffishes(=Catfishes) nei

12 ANNEX III – COMPLIMENTARY DATA FOR THE SUSTAINABLE HARVEST INDICATOR

Information on the number of stocks for which assessments were available when calculating the Sustainable Harvest Indicator (SHI) and the number of stocks considered overfished ($F_{\text{current}} > F_{\text{MSY}}$ or its proxy $F_{0.1}$), provided by Member State (MS) fleet segment.

AREA	MS	Fleet Segment Code	Number of assessed stocks (2014)	Number of overfished stocks (2014)
AREA27	BEL	BEL-AREA27-DTS-VL1824-NGI	25	14
AREA27	BEL	BEL-AREA27-PMP-VL1824-NGI	15	11
AREA27	BEL	BEL-AREA27-TBB-VL1824-NGI	21	13
AREA27	BEL	BEL-AREA27-TBB-VL2440-NGI	26	15
AREA27	DEU	DEU-AREA27-DFN-VL1218-	14	6
AREA27	DEU	DEU-AREA27-DFN-VL2440-	9	4
AREA27	DEU	DEU-AREA27-DTS-VL1012-	6	3
AREA27	DEU	DEU-AREA27-DTS-VL1218-	11	4
AREA27	DEU	DEU-AREA27-DTS-VL1824-	15	8
AREA27	DEU	DEU-AREA27-DTS-VL2440-	21	9
AREA27	DEU	DEU-AREA27-DTS-VL40XX-	14	4
AREA27	DEU	DEU-AREA27-PG-VL0010-	5	2
AREA27	DEU	DEU-AREA27-PG-VL1012-	5	2
AREA27	DEU	DEU-AREA27-TBB-VL1012-	4	3
AREA27	DEU	DEU-AREA27-TBB-VL1218-	6	4
AREA27	DEU	DEU-AREA27-TBB-VL1824-	7	5
AREA27	DEU	DEU-AREA27-TBB-VL2440-	9	5
AREA27	DNK	DNK-AREA27-DRB-VL1012-NGI	1	1
AREA27	DNK	DNK-AREA27-DTS-VL0010-NGI	13	3
AREA27	DNK	DNK-AREA27-DTS-VL1012-NGI	14	5
AREA27	DNK	DNK-AREA27-DTS-VL1218-NGI	23	10
AREA27	DNK	DNK-AREA27-DTS-VL1824-NGI	23	10
AREA27	DNK	DNK-AREA27-DTS-VL2440-NGI	26	10
AREA27	DNK	DNK-AREA27-DTS-VL40XX-NGI	20	7
AREA27	DNK	DNK-AREA27-PGP-VL0010-NGI	15	5
AREA27	DNK	DNK-AREA27-PGP-VL1012-NGI	15	5
AREA27	DNK	DNK-AREA27-PGP-VL1218-NGI	16	7
AREA27	DNK	DNK-AREA27-PMP-VL0010-NGI	15	5
AREA27	DNK	DNK-AREA27-PMP-VL1012-NGI	18	7
AREA27	DNK	DNK-AREA27-PMP-VL1218-NGI	21	9
AREA27	DNK	DNK-AREA27-PMP-VL1824-NGI	15	6
AREA27	DNK	DNK-AREA27-TBB-VL1824-NGI	1	
AREA27	DNK	DNK-AREA27-TM-VL1218-NGI	18	7
AREA27	DNK	DNK-AREA27-TM-VL40XX-NGI	20	7
AREA27	ESP	ESP-AREA27-DFN-VL0010-	2	2

AREA27	ESP	ESP-AREA27-DFN-VL1012-	10	6
AREA27	ESP	ESP-AREA27-DFN-VL1218-	11	7
AREA27	ESP	ESP-AREA27-DFN-VL1824-	8	5
AREA27	ESP	ESP-AREA27-DFN-VL2440-	7	5
AREA27	ESP	ESP-AREA27-DRB-VL0010-	4	2
AREA27	ESP	ESP-AREA27-DTS-VL1012-	6	4
AREA27	ESP	ESP-AREA27-DTS-VL1218-	6	4
AREA27	ESP	ESP-AREA27-DTS-VL1824-	7	5
AREA27	ESP	ESP-AREA27-DTS-VL2440-	20	8
AREA27	ESP	ESP-AREA27-DTS-VL40XX-	14	7
AREA27	ESP	ESP-AREA27-FPO-VL1012-	8	5
AREA27	ESP	ESP-AREA27-FPO-VL1218-	7	5
AREA27	ESP	ESP-AREA27-HOK-VL0010-	7	5
AREA27	ESP	ESP-AREA27-HOK-VL1012-	8	5
AREA27	ESP	ESP-AREA27-HOK-VL1218-	8	5
AREA27	ESP	ESP-AREA27-HOK-VL1824-	6	3
AREA27	ESP	ESP-AREA27-HOK-VL2440-	6	4
AREA27	ESP	ESP-AREA27-PGO-VL1218-	3	3
AREA27	ESP	ESP-AREA27-PGO-VL1824-	1	1
AREA27	ESP	ESP-AREA27-PGO-VL2440-	2	1
AREA27	ESP	ESP-AREA27-PGP-VL1824-	1	
AREA27	ESP	ESP-AREA27-PGP-VL2440-	9	5
AREA27	ESP	ESP-AREA27-PMP-VL0010-	9	6
AREA27	ESP	ESP-AREA27-PMP-VL1012-	8	5
AREA27	ESP	ESP-AREA27-PMP-VL1218-	9	6
AREA27	ESP	ESP-AREA27-PMP-VL1824-	4	2
AREA27	ESP	ESP-AREA27-PMP-VL2440-	6	4
AREA27	ESP	ESP-AREA27-PS-VL0010-	1	1
AREA27	ESP	ESP-AREA27-PS-VL1012-	4	2
AREA27	ESP	ESP-AREA27-PS-VL1218-	5	3
AREA27	ESP	ESP-AREA27-PS-VL1824-	2	2
AREA27	ESP	ESP-AREA27-PS-VL2440-	1	1
AREA27	EST	EST-AREA27-DTS-VL1218-NGI	2	1
AREA27	EST	EST-AREA27-PG-VL0010-NGI	2	1
AREA27	EST	EST-AREA27-PG-VL1012-NGI	1	
AREA27	EST	EST-AREA27-TM-VL1218-NGI	2	1
AREA27	EST	EST-AREA27-TM-VL1824-NGI	2	1
AREA27	EST	EST-AREA27-TM-VL2440-NGI	2	1
AREA27	FIN	FIN-AREA27-PG-VL0010-	3	2
AREA27	FIN	FIN-AREA27-PG-VL1012-	3	2
AREA27	FIN	FIN-AREA27-TM-VL1218-	4	3
AREA27	FIN	FIN-AREA27-TM-VL1824-	3	2
AREA27	FIN	FIN-AREA27-TM-VL2440-	4	3

AREA27	FRA	FRA-AREA27-DFN-VL0010-	24	13
AREA27	FRA	FRA-AREA27-DFN-VL1012-	27	15
AREA27	FRA	FRA-AREA27-DFN-VL1218-	24	14
AREA27	FRA	FRA-AREA27-DFN-VL1824-	23	15
AREA27	FRA	FRA-AREA27-DFN-VL2440-	15	6
AREA27	FRA	FRA-AREA27-DRB-VL0010-	14	10
AREA27	FRA	FRA-AREA27-DRB-VL1012-	20	12
AREA27	FRA	FRA-AREA27-DRB-VL1218-	18	10
AREA27	FRA	FRA-AREA27-DRB-VL1824-	11	7
AREA27	FRA	FRA-AREA27-DRB-VL2440-	3	2
AREA27	FRA	FRA-AREA27-DTS-VL0010-	18	10
AREA27	FRA	FRA-AREA27-DTS-VL1012-	27	15
AREA27	FRA	FRA-AREA27-DTS-VL1218-	27	15
AREA27	FRA	FRA-AREA27-DTS-VL1824-	35	17
AREA27	FRA	FRA-AREA27-DTS-VL2440-	38	18
AREA27	FRA	FRA-AREA27-DTS-VL40XX-	17	7
AREA27	FRA	FRA-AREA27-FPO-VL0010-	16	9
AREA27	FRA	FRA-AREA27-FPO-VL1012-	16	11
AREA27	FRA	FRA-AREA27-FPO-VL1218-	5	3
AREA27	FRA	FRA-AREA27-FPO-VL2440-	2	1
AREA27	FRA	FRA-AREA27-HOK-VL0010-	18	11
AREA27	FRA	FRA-AREA27-HOK-VL1012-	17	12
AREA27	FRA	FRA-AREA27-HOK-VL1218-	6	4
AREA27	FRA	FRA-AREA27-HOK-VL1824-	5	3
AREA27	FRA	FRA-AREA27-HOK-VL2440-	7	4
AREA27	FRA	FRA-AREA27-MGO-VL0010-	11	6
AREA27	FRA	FRA-AREA27-MGO-VL1012-	3	2
AREA27	FRA	FRA-AREA27-MGP-VL0010-	15	9
AREA27	FRA	FRA-AREA27-MGP-VL1012-	17	10
AREA27	FRA	FRA-AREA27-MGP-VL1218-	16	9
AREA27	FRA	FRA-AREA27-MGP-VL1824-	14	8
AREA27	FRA	FRA-AREA27-PGO-VL0010-	6	5
AREA27	FRA	FRA-AREA27-PGO-VL1012-	1	
AREA27	FRA	FRA-AREA27-PGP-VL0010-	17	10
AREA27	FRA	FRA-AREA27-PGP-VL1012-	13	8
AREA27	FRA	FRA-AREA27-PGP-VL1218-	7	4
AREA27	FRA	FRA-AREA27-PMP-VL0010-	17	10
AREA27	FRA	FRA-AREA27-PMP-VL1012-	16	10
AREA27	FRA	FRA-AREA27-PMP-VL1218-	12	8
AREA27	FRA	FRA-AREA27-PS-VL0010-	3	2
AREA27	FRA	FRA-AREA27-PS-VL1012-	3	1
AREA27	FRA	FRA-AREA27-PS-VL1218-	5	3
AREA27	FRA	FRA-AREA27-PS-VL1824-	4	2

AREA27	FRA	FRA-AREA27-TBB-VL0010-	4	2
AREA27	FRA	FRA-AREA27-TBB-VL1218-	11	8
AREA27	FRA	FRA-AREA27-TM-VL1012-	6	3
AREA27	FRA	FRA-AREA27-TM-VL1218-	14	8
AREA27	FRA	FRA-AREA27-TM-VL1824-	21	13
AREA27	FRA	FRA-AREA27-TM-VL2440-	20	12
AREA27	FRA	FRA-AREA27-TM-VL40XX-	10	4
AREA27	GBR	GBR-AREA27-DFN-VL0010-NGI	24	14
AREA27	GBR	GBR-AREA27-DFN-VL1012-NGI	17	11
AREA27	GBR	GBR-AREA27-DFN-VL1218-NGI	16	10
AREA27	GBR	GBR-AREA27-DFN-VL1824-NGI	12	8
AREA27	GBR	GBR-AREA27-DFN-VL2440-NGI	5	2
AREA27	GBR	GBR-AREA27-DRB-VL0010-NGI	27	14
AREA27	GBR	GBR-AREA27-DRB-VL1012-NGI	15	10
AREA27	GBR	GBR-AREA27-DRB-VL1218-NGI	30	17
AREA27	GBR	GBR-AREA27-DRB-VL1824-NGI	11	7
AREA27	GBR	GBR-AREA27-DRB-VL2440-NGI	16	10
AREA27	GBR	GBR-AREA27-DRB-VL40XX-NGI	1	1
AREA27	GBR	GBR-AREA27-DTS-VL0010-NGI	33	18
AREA27	GBR	GBR-AREA27-DTS-VL1012-NGI	31	17
AREA27	GBR	GBR-AREA27-DTS-VL1218-NGI	37	20
AREA27	GBR	GBR-AREA27-DTS-VL1824-NGI	40	20
AREA27	GBR	GBR-AREA27-DTS-VL2440-NGI	42	21
AREA27	GBR	GBR-AREA27-DTS-VL40XX-NGI	20	10
AREA27	GBR	GBR-AREA27-FPO-VL0010-NGI	34	17
AREA27	GBR	GBR-AREA27-FPO-VL1012-NGI	26	16
AREA27	GBR	GBR-AREA27-FPO-VL1218-NGI	21	13
AREA27	GBR	GBR-AREA27-HOK-VL0010-NGI	27	13
AREA27	GBR	GBR-AREA27-HOK-VL1012-NGI	9	6
AREA27	GBR	GBR-AREA27-HOK-VL2440-NGI	3	
AREA27	GBR	GBR-AREA27-MGP-VL0010-NGI	24	14
AREA27	GBR	GBR-AREA27-MGP-VL1012-NGI	2	1
AREA27	GBR	GBR-AREA27-MGP-VL1218-NGI	10	6
AREA27	GBR	GBR-AREA27-PGP-VL0010-NGI	22	14
AREA27	GBR	GBR-AREA27-PGP-VL1012-NGI	8	6
AREA27	GBR	GBR-AREA27-PGP-VL1218-NGI	7	5
AREA27	GBR	GBR-AREA27-PMP-VL0010-NGI	14	8
AREA27	GBR	GBR-AREA27-TBB-VL0010-NGI	7	5
AREA27	GBR	GBR-AREA27-TBB-VL1012-NGI	7	5
AREA27	GBR	GBR-AREA27-TBB-VL1218-NGI	14	10
AREA27	GBR	GBR-AREA27-TBB-VL1824-NGI	13	9
AREA27	GBR	GBR-AREA27-TBB-VL2440-NGI	24	14
AREA27	GBR	GBR-AREA27-TBB-VL40XX-NGI	10	6

AREA27	GBR	GBR-AREA27-TM-VL0010-NGI	5	2
AREA27	GBR	GBR-AREA27-TM-VL1218-NGI	10	6
AREA27	GBR	GBR-AREA27-TM-VL2440-NGI	6	3
AREA27	GBR	GBR-AREA27-TM-VL40XX-NGI	12	4
AREA27	IRL	IRL-AREA27-DFN-VL0010-	17	8
AREA27	IRL	IRL-AREA27-DFN-VL1012-	11	6
AREA27	IRL	IRL-AREA27-DFN-VL1218-	9	5
AREA27	IRL	IRL-AREA27-DFN-VL1824-	12	7
AREA27	IRL	IRL-AREA27-DFN-VL2440-	5	3
AREA27	IRL	IRL-AREA27-DRB-VL0010-	18	8
AREA27	IRL	IRL-AREA27-DRB-VL1824-	3	1
AREA27	IRL	IRL-AREA27-DTS-VL0010-	21	9
AREA27	IRL	IRL-AREA27-DTS-VL1012-	15	6
AREA27	IRL	IRL-AREA27-DTS-VL1218-	26	11
AREA27	IRL	IRL-AREA27-DTS-VL1824-	26	11
AREA27	IRL	IRL-AREA27-DTS-VL2440-	28	12
AREA27	IRL	IRL-AREA27-FPO-VL0010-	21	9
AREA27	IRL	IRL-AREA27-FPO-VL1012-	17	7
AREA27	IRL	IRL-AREA27-FPO-VL1218-	8	4
AREA27	IRL	IRL-AREA27-HOK-VL0010-	12	5
AREA27	IRL	IRL-AREA27-HOK-VL1012-	1	1
AREA27	IRL	IRL-AREA27-HOK-VL1218-	12	4
AREA27	IRL	IRL-AREA27-PMP-VL1012-	5	3
AREA27	IRL	IRL-AREA27-PMP-VL1218-	11	4
AREA27	IRL	IRL-AREA27-TBB-VL1824-	12	5
AREA27	IRL	IRL-AREA27-TBB-VL2440-	11	5
AREA27	IRL	IRL-AREA27-TM-VL0010-	22	10
AREA27	IRL	IRL-AREA27-TM-VL1218-	11	5
AREA27	IRL	IRL-AREA27-TM-VL1824-	14	8
AREA27	IRL	IRL-AREA27-TM-VL2440-	14	7
AREA27	IRL	IRL-AREA27-TM-VL40XX-	9	4
AREA27	LTU	LTU-AREA27-DFN-VL1012-	1	
AREA27	LTU	LTU-AREA27-DTS-VL2440-	2	1
AREA27	LTU	LTU-AREA27-PG-VL0010-	1	
AREA27	LTU	LTU-AREA27-TM-VL2440-	2	1
AREA27	LTU	LTU-AREA27-TM-VL40XX-	2	1
AREA27	LVA	LVA-AREA27-PGP-VL0010-NGI	2	1
AREA27	LVA	LVA-AREA27-TM-VL2440-NGI	2	1
AREA27	NLD	NLD-AREA27-DFN-VL1218-NGI	6	5
AREA27	NLD	NLD-AREA27-DFN-VL1824-NGI	5	4
AREA27	NLD	NLD-AREA27-DRB-VL2440-NGI	2	2
AREA27	NLD	NLD-AREA27-DTS-VL0010-NGI	5	4
AREA27	NLD	NLD-AREA27-DTS-VL1824-NGI	12	8

AREA27	NLD	NLD-AREA27-DTS-VL2440-NGI	20	9
AREA27	NLD	NLD-AREA27-PG-VL0010-NGI	7	5
AREA27	NLD	NLD-AREA27-PG-VL1012-NGI	7	5
AREA27	NLD	NLD-AREA27-TBB-VL0010-NGI	5	4
AREA27	NLD	NLD-AREA27-TBB-VL1218-NGI	4	3
AREA27	NLD	NLD-AREA27-TBB-VL1824-NGI	14	7
AREA27	NLD	NLD-AREA27-TBB-VL2440-NGI	14	7
AREA27	NLD	NLD-AREA27-TBB-VL40XX-NGI	16	7
AREA27	NLD	NLD-AREA27-TM-VL40XX-NGI	14	5
AREA27	POL	POL-AREA27-DFN-VL1218-	4	2
AREA27	POL	POL-AREA27-DTS-VL1218-	4	2
AREA27	POL	POL-AREA27-DTS-VL1824-	4	2
AREA27	POL	POL-AREA27-PG-VL0010-	4	2
AREA27	POL	POL-AREA27-PG-VL1012-	4	2
AREA27	POL	POL-AREA27-TM-VL1824-	3	2
AREA27	POL	POL-AREA27-TM-VL2440-	4	2
AREA27	PRT	PRT-AREA27-DFN-VL0010-NGI	6	4
AREA27	PRT	PRT-AREA27-DFN-VL1012-NGI	8	5
AREA27	PRT	PRT-AREA27-DFN-VL1218-NGI	9	5
AREA27	PRT	PRT-AREA27-DFN-VL1824-NGI	8	5
AREA27	PRT	PRT-AREA27-DRB-VL1218-NGI	2	2
AREA27	PRT	PRT-AREA27-DTS-VL0010-NGI	7	5
AREA27	PRT	PRT-AREA27-DTS-VL1218-NGI	8	6
AREA27	PRT	PRT-AREA27-DTS-VL1824-NGI	7	5
AREA27	PRT	PRT-AREA27-DTS-VL2440-NGI	12	6
AREA27	PRT	PRT-AREA27-DTS-VL40XX-IWE	2	
AREA27	PRT	PRT-AREA27-FPO-VL0010-NGI	3	1
AREA27	PRT	PRT-AREA27-FPO-VL1012-NGI	6	4
AREA27	PRT	PRT-AREA27-FPO-VL1218-NGI	8	4
AREA27	PRT	PRT-AREA27-FPO-VL1824-NGI	7	4
AREA27	PRT	PRT-AREA27-HOK-VL0010-NGI	6	4
AREA27	PRT	PRT-AREA27-HOK-VL1012-NGI	5	3
AREA27	PRT	PRT-AREA27-HOK-VL1012-P3	2	1
AREA27	PRT	PRT-AREA27-HOK-VL1218-NGI	7	5
AREA27	PRT	PRT-AREA27-HOK-VL1218-P3	2	1
AREA27	PRT	PRT-AREA27-HOK-VL1824-NGI	6	2
AREA27	PRT	PRT-AREA27-HOK-VL2440-NGI	5	3
AREA27	PRT	PRT-AREA27-HOK-VL2440-P3	3	2
AREA27	PRT	PRT-AREA27-MGO-VL0010-NGI	3	2
AREA27	PRT	PRT-AREA27-MGO-VL1012-NGI	3	2
AREA27	PRT	PRT-AREA27-PGP-VL0010-NGI	9	5
AREA27	PRT	PRT-AREA27-PGP-VL1012-NGI	6	4
AREA27	PRT	PRT-AREA27-PGP-VL1218-NGI	9	4

AREA27	PRT	PRT-AREA27-PMP-VL0010-NGI	4	2
AREA27	PRT	PRT-AREA27-PS-VL0010-NGI	3	2
AREA27	PRT	PRT-AREA27-PS-VL1012-NGI	4	2
AREA27	PRT	PRT-AREA27-PS-VL1218-NGI	6	4
AREA27	PRT	PRT-AREA27-PS-VL1824-NGI	3	2
AREA27	PRT	PRT-AREA27-PS-VL2440-NGI	3	2
AREA27	PRT	PRT-AREA27-TBB-VL0010-NGI	4	2
AREA27	PRT	PRT-AREA27-TBB-VL1012-NGI	2	1
AREA27	SWE	SWE-AREA27-DFN-VL0010-NGI	15	5
AREA27	SWE	SWE-AREA27-DFN-VL1012-NGI	15	5
AREA27	SWE	SWE-AREA27-DFN-VL1218-NGI	8	4
AREA27	SWE	SWE-AREA27-DTS-VL0010-NGI	14	4
AREA27	SWE	SWE-AREA27-DTS-VL1012-NGI	14	4
AREA27	SWE	SWE-AREA27-DTS-VL1218-NGI	15	5
AREA27	SWE	SWE-AREA27-DTS-VL1824-NGI	20	9
AREA27	SWE	SWE-AREA27-DTS-VL2440-NGI	21	10
AREA27	SWE	SWE-AREA27-FPO-VL0010-NGI	14	4
AREA27	SWE	SWE-AREA27-FPO-VL1012-NGI	10	2
AREA27	SWE	SWE-AREA27-FPO-VL1218-NGI	2	1
AREA27	SWE	SWE-AREA27-HOK-VL0010-NGI	6	2
AREA27	SWE	SWE-AREA27-HOK-VL1012-NGI	7	3
AREA27	SWE	SWE-AREA27-HOK-VL1218-NGI	1	1
AREA27	SWE	SWE-AREA27-PGP-VL0010-NGI	12	4
AREA27	SWE	SWE-AREA27-PGP-VL1012-NGI	2	2
AREA27	SWE	SWE-AREA27-PMP-VL0010-NGI	11	2
AREA27	SWE	SWE-AREA27-PS-VL0010-NGI	1	1
AREA27	SWE	SWE-AREA27-PS-VL1012-NGI	1	
AREA27	SWE	SWE-AREA27-PS-VL1218-NGI	1	
AREA27	SWE	SWE-AREA27-PS-VL40XX-NGI	8	2
AREA27	SWE	SWE-AREA27-TM-VL1012-NGI	3	1
AREA27	SWE	SWE-AREA27-TM-VL1218-NGI	3	3
AREA27	SWE	SWE-AREA27-TM-VL1824-NGI	3	2
AREA27	SWE	SWE-AREA27-TM-VL2440-NGI	13	6
AREA27	SWE	SWE-AREA27-TM-VL40XX-NGI	11	4
AREA37	BGR	BGR-AREA37-DFN-VL0006-NGI	6	5
AREA37	BGR	BGR-AREA37-DFN-VL0612-NGI	6	5
AREA37	BGR	BGR-AREA37-DFN-VL1218-NGI	6	5
AREA37	BGR	BGR-AREA37-DFN-VL1824-NGI	1	1
AREA37	BGR	BGR-AREA37-FPO-VL0006-NGI	4	3
AREA37	BGR	BGR-AREA37-FPO-VL0612-NGI	4	3
AREA37	BGR	BGR-AREA37-HOK-VL0006-NGI	3	3
AREA37	BGR	BGR-AREA37-HOK-VL0612-NGI	6	5
AREA37	BGR	BGR-AREA37-PGP-VL0006-NGI	4	3

AREA37	BGR	BGR-AREA37-PGP-VL0612-NGI	3	3
AREA37	BGR	BGR-AREA37-PGP-VL1218-NGI	5	4
AREA37	BGR	BGR-AREA37-PMP-VL0006-NGI	2	2
AREA37	BGR	BGR-AREA37-PMP-VL0612-NGI	6	5
AREA37	BGR	BGR-AREA37-PMP-VL1218-NGI	5	5
AREA37	BGR	BGR-AREA37-PMP-VL1824-NGI	6	5
AREA37	BGR	BGR-AREA37-PMP-VL2440-NGI	3	3
AREA37	BGR	BGR-AREA37-PS-VL0006-NGI	5	4
AREA37	BGR	BGR-AREA37-PS-VL0612-NGI	4	3
AREA37	BGR	BGR-AREA37-TBB-VL0612-NGI	1	1
AREA37	BGR	BGR-AREA37-TM-VL0612-NGI	6	5
AREA37	BGR	BGR-AREA37-TM-VL1218-NGI	6	5
AREA37	BGR	BGR-AREA37-TM-VL1824-NGI	5	4
AREA37	BGR	BGR-AREA37-TM-VL2440-NGI	5	4
AREA37	CYP	CYP-AREA37-DTS-VL2440-	1	1
AREA37	CYP	CYP-AREA37-PGP-VL1218-	1	
AREA37	ESP	ESP-AREA37-DFN-VL0612-	10	7
AREA37	ESP	ESP-AREA37-DFN-VL1218-	5	4
AREA37	ESP	ESP-AREA37-DRB-VL0612-	3	3
AREA37	ESP	ESP-AREA37-DRB-VL1218-	1	
AREA37	ESP	ESP-AREA37-DTS-VL0612-	9	9
AREA37	ESP	ESP-AREA37-DTS-VL1218-	16	14
AREA37	ESP	ESP-AREA37-DTS-VL1824-	16	16
AREA37	ESP	ESP-AREA37-DTS-VL2440-	15	15
AREA37	ESP	ESP-AREA37-FPO-VL0612-	2	2
AREA37	ESP	ESP-AREA37-FPO-VL1218-	4	3
AREA37	ESP	ESP-AREA37-HOK-VL0612-	9	6
AREA37	ESP	ESP-AREA37-HOK-VL1218-	5	4
AREA37	ESP	ESP-AREA37-HOK-VL1824-	2	2
AREA37	ESP	ESP-AREA37-PGO-VL1218-	3	2
AREA37	ESP	ESP-AREA37-PGO-VL1824-	3	2
AREA37	ESP	ESP-AREA37-PGO-VL2440-	2	1
AREA37	ESP	ESP-AREA37-PMP-VL0006-	12	9
AREA37	ESP	ESP-AREA37-PMP-VL0612-	15	12
AREA37	ESP	ESP-AREA37-PMP-VL1218-	6	5
AREA37	ESP	ESP-AREA37-PMP-VL2440-	1	
AREA37	ESP	ESP-AREA37-PS-VL0612-	4	4
AREA37	ESP	ESP-AREA37-PS-VL1218-	5	4
AREA37	ESP	ESP-AREA37-PS-VL1824-	2	2
AREA37	ESP	ESP-AREA37-PS-VL2440-	3	2
AREA37	ESP	ESP-AREA37-PS-VL40XX-	1	
AREA37	FRA	FRA-AREA37-DFN-VL0006-	1	1
AREA37	FRA	FRA-AREA37-DFN-VL0612-	3	1

AREA37	FRA	FRA-AREA37-DFN-VL1218-	2	1
AREA37	FRA	FRA-AREA37-DRB-VL0612-	1	1
AREA37	FRA	FRA-AREA37-DTS-VL1824-	2	1
AREA37	FRA	FRA-AREA37-DTS-VL2440-	2	1
AREA37	FRA	FRA-AREA37-FPO-VL0006-	1	1
AREA37	FRA	FRA-AREA37-FPO-VL0612-	3	2
AREA37	FRA	FRA-AREA37-HOK-VL0006-	1	1
AREA37	FRA	FRA-AREA37-HOK-VL0612-	2	1
AREA37	FRA	FRA-AREA37-HOK-VL1218-	2	1
AREA37	FRA	FRA-AREA37-MGP-VL2440-	2	1
AREA37	FRA	FRA-AREA37-PGO-VL0612-	1	1
AREA37	FRA	FRA-AREA37-PGP-VL0612-	2	1
AREA37	FRA	FRA-AREA37-PMP-VL0612-	2	1
AREA37	FRA	FRA-AREA37-PMP-VL1218-	1	1
AREA37	FRA	FRA-AREA37-PS-VL0612-	1	1
AREA37	FRA	FRA-AREA37-PS-VL1218-	1	
AREA37	GRC	GRC-AREA37-DFN-VL1218-NGI	1	
AREA37	GRC	GRC-AREA37-DTS-VL2440-NGI	1	
AREA37	GRC	GRC-AREA37-HOK-VL0612-NGI	1	
AREA37	GRC	GRC-AREA37-HOK-VL1218-NGI	1	
AREA37	GRC	GRC-AREA37-PS-VL1218-NGI	1	
AREA37	HRV	HRV-AREA37-DFN-VL0006-NGI	7	7
AREA37	HRV	HRV-AREA37-DFN-VL0612-NGI	7	7
AREA37	HRV	HRV-AREA37-DFN-VL1218-NGI	4	4
AREA37	HRV	HRV-AREA37-DRB-VL0612-NGI	4	4
AREA37	HRV	HRV-AREA37-DRB-VL1218-NGI	4	4
AREA37	HRV	HRV-AREA37-DRB-VL1824-NGI	3	3
AREA37	HRV	HRV-AREA37-DTS-VL0006-NGI	4	4
AREA37	HRV	HRV-AREA37-DTS-VL0612-NGI	7	7
AREA37	HRV	HRV-AREA37-DTS-VL1218-NGI	7	7
AREA37	HRV	HRV-AREA37-DTS-VL1824-NGI	7	7
AREA37	HRV	HRV-AREA37-DTS-VL2440-NGI	5	5
AREA37	HRV	HRV-AREA37-FPO-VL0006-NGI	3	3
AREA37	HRV	HRV-AREA37-FPO-VL0612-NGI	5	5
AREA37	HRV	HRV-AREA37-FPO-VL1218-NGI	1	1
AREA37	HRV	HRV-AREA37-HOK-VL0006-NGI	4	4
AREA37	HRV	HRV-AREA37-HOK-VL0612-NGI	6	5
AREA37	HRV	HRV-AREA37-HOK-VL1218-NGI	3	2
AREA37	HRV	HRV-AREA37-MGO-VL0006-NGI	5	5
AREA37	HRV	HRV-AREA37-MGO-VL0612-NGI	6	6
AREA37	HRV	HRV-AREA37-MGO-VL1218-NGI	2	2
AREA37	HRV	HRV-AREA37-MGP-VL0612-NGI	1	1
AREA37	HRV	HRV-AREA37-PGO-VL0006-NGI	1	1

AREA37	HRV	HRV-AREA37-PGO-VL0612-NGI	5	5
AREA37	HRV	HRV-AREA37-PGP-VL0006-NGI	3	3
AREA37	HRV	HRV-AREA37-PGP-VL0612-NGI	2	2
AREA37	HRV	HRV-AREA37-PMP-VL0006-NGI	5	5
AREA37	HRV	HRV-AREA37-PMP-VL0612-NGI	7	7
AREA37	HRV	HRV-AREA37-PMP-VL1218-NGI	5	5
AREA37	HRV	HRV-AREA37-PS-VL0612-NGI	7	7
AREA37	HRV	HRV-AREA37-PS-VL1218-NGI	6	6
AREA37	HRV	HRV-AREA37-PS-VL1824-NGI	3	3
AREA37	HRV	HRV-AREA37-PS-VL2440-NGI	3	3
AREA37	HRV	HRV-AREA37-PS-VL40XX-NGI	2	2
AREA37	ITA	ITA-AREA37-DRB-VL1218-NGI	5	5
AREA37	ITA	ITA-AREA37-DTS-VL0612-NGI	15	14
AREA37	ITA	ITA-AREA37-DTS-VL1218-NGI	23	20
AREA37	ITA	ITA-AREA37-DTS-VL1824-NGI	23	20
AREA37	ITA	ITA-AREA37-DTS-VL2440-NGI	19	16
AREA37	ITA	ITA-AREA37-HOK-VL1218-NGI	9	8
AREA37	ITA	ITA-AREA37-HOK-VL1824-NGI	1	
AREA37	ITA	ITA-AREA37-PGP-VL0006-NGI	11	11
AREA37	ITA	ITA-AREA37-PGP-VL0612-NGI	19	17
AREA37	ITA	ITA-AREA37-PGP-VL1218-NGI	12	11
AREA37	ITA	ITA-AREA37-PMP-VL1218-NGI	3	3
AREA37	ITA	ITA-AREA37-PS-VL1218-NGI	8	6
AREA37	ITA	ITA-AREA37-PS-VL2440-NGI	3	2
AREA37	ITA	ITA-AREA37-PS-VL40XX-NGI	1	
AREA37	ITA	ITA-AREA37-TBB-VL1218-NGI	3	3
AREA37	ITA	ITA-AREA37-TBB-VL1824-NGI	5	5
AREA37	ITA	ITA-AREA37-TBB-VL2440-NGI	5	5
AREA37	ITA	ITA-AREA37-TM-VL1218-NGI	6	6
AREA37	ITA	ITA-AREA37-TM-VL1824-NGI	2	2
AREA37	ITA	ITA-AREA37-TM-VL2440-NGI	4	4
AREA37	MLT	MLT-AREA37-DFN-VL0006-NGI	1	1
AREA37	MLT	MLT-AREA37-DFN-VL0612-NGI	1	1
AREA37	MLT	MLT-AREA37-DTS-VL1824-NGI	2	1
AREA37	MLT	MLT-AREA37-DTS-VL2440-NGI	2	1
AREA37	MLT	MLT-AREA37-FPO-VL0006-NGI	1	1
AREA37	MLT	MLT-AREA37-HOK-VL0612-NGI	1	
AREA37	MLT	MLT-AREA37-HOK-VL1218-NGI	1	
AREA37	MLT	MLT-AREA37-HOK-VL1824-NGI	1	
AREA37	MLT	MLT-AREA37-MGO-VL0612-NGI	2	1
AREA37	MLT	MLT-AREA37-MGO-VL1218-NGI	1	
AREA37	MLT	MLT-AREA37-PGP-VL0006-NGI	2	1
AREA37	MLT	MLT-AREA37-PGP-VL0612-NGI	2	1

AREA37	MLT	MLT-AREA37-PMP-VL0006-NGI	1	1
AREA37	MLT	MLT-AREA37-PMP-VL0612-NGI	2	1
AREA37	MLT	MLT-AREA37-PS-VL2440-NGI	1	
AREA37	ROU	ROU-AREA37-PG-VL0612-NGI	6	5
AREA37	ROU	ROU-AREA37-PMP-VL0006-NGI	5	4
AREA37	ROU	ROU-AREA37-PMP-VL0612-NGI	6	5
AREA37	ROU	ROU-AREA37-PMP-VL1218-NGI	5	5
AREA37	ROU	ROU-AREA37-PMP-VL2440-NGI	3	2
AREA37	SVN	SVN-AREA37-DFN-VL0006-NGI	5	5
AREA37	SVN	SVN-AREA37-DFN-VL0612-NGI	6	6
AREA37	SVN	SVN-AREA37-DTS-VL1218-NGI	6	6
AREA37	SVN	SVN-AREA37-PS-VL1218-NGI	6	6
OFR	ESP	ESP-OFR-DTS-VL2440-	4	2
OFR	ESP	ESP-OFR-FPO-VL1218-	1	
OFR	ESP	ESP-OFR-HOK-VL0010-	3	1
OFR	ESP	ESP-OFR-HOK-VL1012-	3	1
OFR	ESP	ESP-OFR-HOK-VL1218-	3	2
OFR	ESP	ESP-OFR-HOK-VL1824-	2	1
OFR	ESP	ESP-OFR-HOK-VL2440-	2	1
OFR	ESP	ESP-OFR-PGO-VL1824-	1	1
OFR	ESP	ESP-OFR-PGO-VL2440-	2	1
OFR	ESP	ESP-OFR-PGO-VL40XX-	2	1
OFR	ESP	ESP-OFR-PMP-VL0010-	3	2
OFR	ESP	ESP-OFR-PMP-VL1012-	2	1
OFR	ESP	ESP-OFR-PMP-VL1218-	2	1
OFR	ESP	ESP-OFR-PMP-VL1824-	2	1
OFR	ESP	ESP-OFR-PMP-VL2440-	2	1
OFR	ESP	ESP-OFR-PS-VL0010-	2	1
OFR	ESP	ESP-OFR-PS-VL1012-	1	
OFR	ESP	ESP-OFR-PS-VL1218-	2	1
OFR	ESP	ESP-OFR-PS-VL2440-	2	1
OFR	ESP	ESP-OFR-PS-VL40XX-	2	1
OFR	FRA	FRA-OFR-HOK-VL2440-	1	1
OFR	FRA	FRA-OFR-PS-VL40XX-	2	1
OFR	LTU	LTU-OFR-DTS-VL40XX-	2	
OFR	LTU	LTU-OFR-TM-VL40XX-	7	4
OFR	PRT	PRT-OFR-HOK-VL0010-P2	2	1
OFR	PRT	PRT-OFR-HOK-VL1218-P2	2	1
OFR	PRT	PRT-OFR-HOK-VL1824-P2	2	1
OFR	PRT	PRT-OFR-HOK-VL2440-IWE	2	1
OFR	PRT	PRT-OFR-HOK-VL2440-P2	2	1
OFR	PRT	PRT-OFR-HOK-VL40XX-IWE	1	1
OFR	PRT	PRT-OFR-MGP-VL0010-P2	2	1

OFR	PRT	PRT-OFR-MGP-VL1824-P2	1	1
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13 ANNEX IV – BIOLOGICAL INDICATOR STOCK REFERENCE LIST

The reference list shown below is currently used to divide commercial landings data at species level into stocks; see section xx for further details. Stocks that are not divided are not included in the list. The resulting stock landings data were used in the calculation of the SHI and SAR indicator values for consideration by EWG 16-09.

FAO Species Code	ICES Stock Code	Sub-Region	Stock Splitting Value
ANF	anb-78ab	27.7.B	3.31
ANF	anb-78ab	27.7.C	3.31
ANF	anb-78ab	27.7.D	3.31
ANF	anb-78ab	27.7.E	3.31
ANF	anb-78ab	27.7.F	3.31
ANF	anb-78ab	27.7.G	3.31
ANF	anb-78ab	27.7.H	3.31
ANF	anb-78ab	27.7.J	3.31
ANF	anb-78ab	27.7.K	3.31
ANF	anb-78ab	27.8.A	3.31
ANF	anb-78ab	27.8.B	3.31
ANF	anb-8c9a	27.8.C	2.56
ANF	anb-8c9a	27.9.A	2.56
ANF	anp-8c9a	27.8.C	1.64
ANF	anp-8c9a	27.9.A	1.64
ANF	anp-78ab	27.7.B	1.43
ANF	anp-78ab	27.7.C	1.43
ANF	anp-78ab	27.7.D	1.43
ANF	anp-78ab	27.7.E	1.43
ANF	anp-78ab	27.7.F	1.43
ANF	anp-78ab	27.7.G	1.43
ANF	anp-78ab	27.7.H	1.43
ANF	anp-78ab	27.7.J	1.43
ANF	anp-78ab	27.7.K	1.43
ANF	anp-78ab	27.8.A	1.43
ANF	anp-78ab	27.8.B	1.43
ARS	ars-gsa18_19	SA 18	2.00
ARS	ars-gsa18	SA 18	2.00
COD	cod-farb	27.5.B	7281.70
COD	cod-kat	27.3.A	297.13
COD	cod-farp	27.5.B	104.21
COD	cod-iceg	27.5.A	5.01
COD	cod-arct	27.5.A	1.25
COD	cod-arct	27.5.B	1.01
COD	cod-347d	27.3.A	1.003
DPS	dps-gsa18	SA 18	2.00
DPS	dps-gsa17_18_19	SA 18	2.00

HER	her-vasu	27.5.A	14.35
HER	her-vasu	27.5.A.1	14.35
HER	her-vasu	27.5.A.2	14.35
HER	her-3a22	27.3.A	9.26
HER	her-irlw	27.6.A	8.69
HER	her-irlw	27.7.B	5.84
HER	her-irlw	27.7.C	5.84
HER	her-irlw	27.7.C.1	5.84
HER	her-irlw	27.7.C.2	5.84
HER	her-nirs	27.7.A	3.52
HER	her-47d3	27.4.A	3.36
HER	her-vian	27.6.A	3.04
HER	her-67bc	27.6.A	1.80
HER	her-noss	27.4.A	1.42
HER	her-irls	27.7.A	1.40
HER	her-67bc	27.7.B	1.21
HER	her-67bc	27.7.C	1.21
HER	her-67bc	27.7.C.1	1.21
HER	her-67bc	27.7.C.2	1.21
HER	her-47d3	27.3.A	1.12
HER	her-noss	27.5.A	1.07
HER	her-noss	27.5.A.1	1.07
HER	her-noss	27.5.A.2	1.07
HKE	hke-gsa17	SA 17	2.00
HKE	hke-gsa17_18	SA 17	2.00
LEZ	mgw-8c9a	27.8.C	5.32
LEZ	mgw-8c9a	27.9.A	5.32
LEZ	mgb-8c9a	27.8.C	1.23
LEZ	mgb-8c9a	27.9.A	1.23
MEG	mgw-8c9a	27.8.C	5.32
MEG	mgw-8c9a	27.9.A	5.32
MEG	mgb-8c9a	27.8.C	1.23
MEG	mgb-8c9a	27.9.A	1.23
MNZ	anb-78ab	27.7.B	3.31
MNZ	anb-78ab	27.7.C	3.31
MNZ	anb-78ab	27.7.D	3.31
MNZ	anb-78ab	27.7.E	3.31
MNZ	anb-78ab	27.7.F	3.31
MNZ	anb-78ab	27.7.G	3.31
MNZ	anb-78ab	27.7.H	3.31
MNZ	anb-78ab	27.7.J	3.31
MNZ	anb-78ab	27.7.K	3.31
MNZ	anb-78ab	27.8.A	3.31
MNZ	anb-78ab	27.8.B	3.31
MNZ	anb-8c9a	27.8.C	2.56
MNZ	anb-8c9a	27.9.A	2.56

MNZ	anp-8c9a	27.8.C	1.64
MNZ	anp-8c9a	27.9.A	1.64
MNZ	anp-78ab	27.7.B	1.43
MNZ	anp-78ab	27.7.C	1.43
MNZ	anp-78ab	27.7.D	1.43
MNZ	anp-78ab	27.7.E	1.43
MNZ	anp-78ab	27.7.F	1.43
MNZ	anp-78ab	27.7.G	1.43
MNZ	anp-78ab	27.7.H	1.43
MNZ	anp-78ab	27.7.J	1.43
MNZ	anp-78ab	27.7.K	1.43
MNZ	anp-78ab	27.8.A	1.43
MNZ	anp-78ab	27.8.B	1.43
MON	anb-78ab	27.7.B	3.31
MON	anb-78ab	27.7.C	3.31
MON	anb-78ab	27.7.D	3.31
MON	anb-78ab	27.7.E	3.31
MON	anb-78ab	27.7.F	3.31
MON	anb-78ab	27.7.G	3.31
MON	anb-78ab	27.7.H	3.31
MON	anb-78ab	27.7.J	3.31
MON	anb-78ab	27.7.K	3.31
MON	anb-78ab	27.8.A	3.31
MON	anb-78ab	27.8.B	3.31
MON	anp-78ab	27.7.B	1.43
MON	anp-78ab	27.7.C	1.43
MON	anp-78ab	27.7.D	1.43
MON	anp-78ab	27.7.E	1.43
MON	anp-78ab	27.7.F	1.43
MON	anp-78ab	27.7.G	1.43
MON	anp-78ab	27.7.H	1.43
MON	anp-78ab	27.7.J	1.43
MON	anp-78ab	27.7.K	1.43
MON	anp-78ab	27.8.A	1.43
MON	anp-78ab	27.8.B	1.43
MTS	mts-gsa17	SA 17	2.00
MTS	mts-gsa17_18	SA 17	2.00
MTS	mts-gsa18	SA 18	2.00
MTS	mts-gsa17_18	SA 18	2.00
NEP	nep-14	27.7.A	18.66
NEP	nep-19	27.7.A	15.87
NEP	nep-9	27.4.A	6.61
NEP	nep-19	27.7.G	4.57
NEP	nep-5	27.4.B	4.40
NEP	nep-11	27.6.A	4.21
NEP	nep-12	27.6.A	3.48

NEP	nep-19	27.7.J	2.73
NEP	nep-19	27.7.J.1	2.73
NEP	nep-19	27.7.J.2	2.73
NEP	nep-8	27.4.B	2.71
NEP	nep-6	27.4.B	2.48
NEP	nep-17	27.7.B	2.18
NEP	nep-13	27.6.A	2.10
NEP	nep-16	27.7.B	1.85
NEP	nep-16	27.7.J	1.58
NEP	nep-16	27.7.J.1	1.58
NEP	nep-16	27.7.J.2	1.58
NEP	nep-22	27.7.G	1.28
NEP	nep-7	27.4.A	1.18
NEP	nep-15	27.7.A	1.13
PLE	ple-2123	27.3.A	42.57
PLE	ple-nsea	27.3.A	1.02
SAN	san-ns2	27.4.B	14.16
SAN	san-ns2	27.4.C	10.01
SAN	san-ns3	27.4.B	3.41
SAN	san-ns1	27.4.B	1.57
SAN	san-ns1	27.4.C	1.11

14 ANNEX V – SAR STOCK SELECTION

FAO Species Code	Species Name	ICES Stock Code	Stock Description	SAR	Criteria
AAE	Sturgeon		all 37 (gsa)	TRUE	d
AGN	Angel shark	agn-nea	all 27	TRUE	cd
ANE	Anchovy	ane-bisc	27.8	FALSE	a
ANE	Anchovy	ane-gsa07	GSA7	TRUE	b
ANE	Anchovy	ane-gsa17	GSA17	TRUE	b
BFT	Bluefin tuna	bft	all 37 (gsa)	FALSE	b
BFT	Bluefin tuna	bft	all 27	FALSE	b
BLI	Blue Ling	bli-	27.7.1, 27.7.2, 27.3.A, 27.4.A, 27.8, 27.9, 27.12	TRUE	b
BLI	Blue Ling	bli-5a14	27.5.A, 27.14	FALSE	b
BLI	Blue Ling	bli-5b67	27.5.B, 27.6, 27.7	FALSE	b
BSH	Basking shark		all 27, all 37	TRUE	d
BTH	Bigeye Thresher Shark		all waters	TRUE	c
CAP	Capelin	cap-icel	27.2.A, 27.5, 27.14	TRUE	b
CCT	Sand Tiger Shark		34.1.1, 34.1.2, 37	TRUE	d
COD	Greenland cod	cod-ewgr	27.14, 21.1	TRUE	b
COD	Cod	cod-347d	27.3.A, 27.4, 27.7.B	FALSE	a
COD	Cod	cod-7ek	27.7.E, 27.7.F, 27.7.F, 27.7.G, 27.7.H, 27.7.I, 27.7.K	FALSE	a
COD	Cod	cod-2224	27.3.B.23, 27.3.C.22, 27.3.D.24, 27.4.A, 27.4.B, 27.4.C	TRUE	a
COD	Cod	cod-scow	27.6.A	TRUE	a
COD	Cod	cod-farp-farb	27.5.B	TRUE	a
COD	Cod	cod-iris	27.7.A	TRUE	b
CYO	Portuguese dogfish	cyo-nea	all 27	TRUE	c
DCA	Birdbeak dogfish		27.1, 27.2.A, 27.4, 27.14	TRUE	c
DGS	Spiny dogfish	dgs-nea	27.1, 27.2.A, 27.3.A, 27.5, 27.6, 27.7, 27.8, 27.12, 27.14	TRUE	b
DGS	Spiny Dogfish	dgs-sa29	GSA 29	TRUE	b
ELE	European eel		all 27	TRUE	d
ELE	European eel		all 37 (gsa)	TRUE	d
ETP	Smooth Lantern Shark		27.2.A, 27.3, 27.4, 27.6, 27.7.27.8, 27.9, 27.10	TRUE	c
ETR	Great Lantern Shark		27.1, 27.2.A, 27.4, 27.14	TRUE	c
FAL	Silky Shark		21, 27, 31, 34, 37, 41, 47, 48	TRUE	c
GAG	Tope Shark		27.2.A, 27.3, 27.4, 27.6, 27.7, 27.8, 27.9, 27.10 with Long Line	TRUE	c
GSK	Greenland Shark		27.5, 27.6, 27.7, 27.9, 27.10	TRUE	c
GTF	Rhinobatidae			TRUE	cd
GTF	Guitarfishes		I, II, III, IV, V, VI, VII, VIII, IX, X and XII	TRUE	c

GUC	Leaf-scale gluper shark	guq-nea	all 27	TRUE	c
GUD	Chola guitarfish		all 31, all 41	TRUE	c
GUF	Pacific guitarfish		all 87, all 77	TRUE	c
GUQ	Leafscale Gulper Shark		27.1, 27.2.A, 27.4, 27.14	TRUE	c
GUZ	Guitarfishes nei		all waters	TRUE	c
HAD	Haddock	had-346a	27.7.3, 27.7.4, 27.6.A	FALSE	a
HAD	Haddock	had-faro	27.5.B	TRUE	a
HAD	Haddock	had-rock	27.6.B	TRUE	a
HER	Herring	her-3a22	27.3.A, 27.3.C.22, 27.3.D.24	FALSE	a
HER	Herring	her-riga	27.3.D.28	FALSE	a
HER	Herring	her-2532-gor	27.3.D.25, 27.3.D.26, 27.3.D.27, 27.3.D.28.2, 27.3.D.29, 27.3.D.32	FALSE	a
HER	Herring	her-67bc	27.6.A, 27.7.B, 27.7.C	TRUE	a
HOM	Horse makarel	hom-west	27.2.A, 27.4.A, 27.5.B, 27.6.A, 27.7.A, 27.7.B, 27.7.C, 27.7.E, 27.7.F, 27.7.F, 27.7.G, 27.7.H, 27.7.I, 27.7.K, 27.8	FALSE	a
JAD	Norwegian Skate		27.6.A, 27.6.B, 27.7.A, 27.7.B, 27.7.C, 27.7.E, 27.7.F, 27.7.G, 27.7.H, 27.7.K	TRUE	c
JAD	Norwegian Skate		VIa, VIb, VIIa-c, VIIefghk	TRUE	b
JAM	Maltese Ray		all 37 (gsa)	TRUE	cd
LOO	Smalltooth Sand Tiger		21.1, 27.8, 27.9, 27.10, 34.1.1, 34.1.2, 37	TRUE	d
MAN	Mantas, devil rays nei		29.9, 29.10, all 34, all 31, all 41, all 51, all 57, all 77, all 81, all 87	TRUE	c
MPO	Bull Ray		27.9, 34.1.1, 34.1.2, 37	TRUE	d
NEP	Nephrops	nep-8de	27.8.D, 27.8.E	FALSE	b
NEP	Nephrops	nep-2627	27.9.a	TRUE	b
NEP	Nephrops	nep25-31	27.8.C	TRUE	b
ORY	Orange roughy	ory-nae	all 27	TRUE	b
ORY	Orange roughy	ory-sea	all 47	TRUE	b
OSC	Oceanic White Tip		all waters	TRUE	cd
PAN	Shrimp		21.3.L, 21.3.M, 21.3.N, 21.3.O	TRUE	b
PIL	Sardine	sar-soth	27.8c, 27.9a	TRUE	b
PIL	Sardine	sar-gsa06	GSA 6	TRUE	b
PLE	Plaice	ple-eche	27.7.D	FALSE	a
PLE	Plaice	ple-celt	27.7.F, 27.7.G	FALSE	a
PLE	Plaice	ple-echew	27.7.E	FALSE	a
POK	Saithe	sai-faro	27.7.B	TRUE	a
POK	Saithe	sai-arct	27.1, 27.2	FALSE	a
POK	Saithe	sai3a46	27.3.A, 27.4, 27.6	FALSE	a
POL	Pollack	pol3a4	27.3.A, 27.4	TRUE	b
POR	Porbeagle	por-nwa	all 21	TRUE	cd
POR	Porbeagle	por-sea	all 34	TRUE	cd

POR	Porbeagle	por-swa	all 41	TRUE	cd
POR	Porbeagle	por-med	all 37 (gsa)	TRUE	cd
POR	Porbeagle	por-nea	all 27	TRUE	cd
PTH	Pelagic Thresher Shark		all 51, all 57	TRUE	c
RBC	Blackchin guitarfish		all ICES area	TRUE	c
RBC	Blackchin Guitarfish		all 37 (gsa)	TRUE	c
RBE	Lesser guitarfish		all ICES area	TRUE	c
RBL	Speckled guitarfish		all ICES area	TRUE	c
RBO	Slender guitarfish		all ICES area	TRUE	c
RBP	Shovelnose guitarfish		all ICES area	TRUE	c
RBR	Granulated guitarfish		all ICES area	TRUE	c
RBS	Grayspottted guitarfish		all ICES area	TRUE	c
RBT	Round stingray		all ICES area	TRUE	c
RBU	Whitesnout guitarfish		all ICES area	TRUE	c
RBX	Common guitarfish		27.8.C, 27.9, all 34, all 47	TRUE	c
RBX	Common Guitarfish		all 37 (gsa)	TRUE	c
RBZ	Brown guitarfish		all 71, all 81	TRUE	c
REB	Beaked redfish	smn-sp	21.1.C, 21.1.D, 21.1.F, 21.2.J, 27.5, 27.12, 27.14	TRUE	b
REG	Golden redfish	reb-arct	27.1, 27.2	TRUE	b
RGL	Spiny butterfly Ray		27.8c, 27.9, 34.1.1, 34.1.2, 37	TRUE	d
RHH	Bluntnose guitarfish		all ICES area	TRUE	c
RHN	Whale shark		all 31, all 34, all 41, all 51, all 58	TRUE	d
RJA	White Skate	rja-nea	27.6, 27.7, 27.8, 27.9, 27.10	TRUE	bc
RJB	Comon Skate Complex		27.2.A, 27.3, 27.4, 27.6, 27.7.27.8, 27.9, 27.10	TRUE	c
RJC	Thornback Ray	rjc-celt	27.3a	TRUE	c
RJI	Sandy Ray		all 37 (gsa)	TRUE	c
RJR	Starry Ray	rjr-234	27.2.A, 27.3.A, 27.4, 27.7.D	TRUE	bc
RJU	Undulate Ray	rju	27.6, 27.10	TRUE	bc
RMB	Giant Manta		all waters	TRUE	cd
RME	Longhorned mobula		all waters	TRUE	c
RMH	Lesser devil ray		all waters	TRUE	c
RMJ	Spinetail mobula		all waters	TRUE	c
RMK	Shortfin devil ray		all waters	TRUE	c
RMM	Giant Devil Ray		all waters	TRUE	c
RMO	Smoothtail mobula		all waters	TRUE	c
RMR	Atlantic Devilray		all waters	TRUE	c
RMT	Chilean devil ray		all waters	TRUE	c
RMU	Munk's devil ray		all waters	TRUE	c
RMV	Mobula nei		all waters	TRUE	c
RNG	Round nose Grenadier		27.3.A	TRUE	b

RPA	Narrow sawfish		all 51, all 57, all 61, All 71, all 81	TRUE	d
RPC	Dwarf sawfish		all 57, all 71, all 81	TRUE	d
RPM	Largeetooth sawfish		34.1, 34.3, all 41, all 51, all 57, all 61, All 71, all 81	TRUE	d
RPZ	Smalltooth sawfish		all 31, 34.1, 34.3, all 41, all 51, all 57	TRUE	d
RZE	Banded guitarfish		all ICES area	TRUE	c
SAL	Atlantic salmon	sal-2231	27.3.B.23, 27.3.C.22, 27.3.D, 27.3.D.24, 27.3.D.25, 27.3.D.26, 27.3.D.27, 27.3.D.28, 27.3.D.29, 27.3.D.30, 27.3.D.31	TRUE	b
SAL	Atlantic salmon	sal-32	27.3.D.32	FALSE	b
SAN	Sandeel	san-ns1	27.4.B, 27.4.C	TRUE	b
SAN	Sandeel	san-ns2	27.4.B, 27.4.C	TRUE	b
SAN	Sandeel	san-ns7	27.5.b	TRUE	b
SAN	Sandeel	san-ns3	27.4.B	FALSE	a
SAN	Sandeel	san-ns5	27.3.A, 27.4.A, 27.4.B	TRUE	b
SAN	Sandeel	san-ns6	27.3.A	FALSE	b
SAW	Sawfishes nei		27.9, 31, 34, 37, 41, 51, 57	TRUE	d
SBF	Southern Blufin Tuna		47.C, 47.D, 51.6, 51.7, 51.8, 58, 57.2, 57.3, 57.4, 57.5, 57.6, 81	TRUE	d
SBR	Red seabream	sbr-678	27.6, 27.7, 27.8	TRUE	b
SBR	Red seabream	sbr-9	27.9	FALSE	b
SCK	Kitefin Shark		27.1, 27.2.A, 27.4, 27.14	TRUE	c
SOL	Sole	sol-iris	27.7A	TRUE	a
SOL	Sole	sol-bisc	27.8.A, 27.8.B	TRUE	a
SPK	Great Hammerhead		all waters	TRUE	d
SPL	Scallop Hammerhead		all waters	TRUE	d
SPN	Hammerhead Sharks nei		all waters	TRUE	d
SPZ	Smooth Hammerhead		all waters	TRUE	d
SUA	Sawback Angelshark		27.9, 34.1.1, 34.1.2, 37	TRUE	d
SUT	Smoothback Angelshark		27.9, 34, 37, 47	TRUE	d
TUR	Turbot	tur-gsa29	gsa29	TRUE	b
WHG	Whiting	whg-scow	27.6.A	TRUE	a
WHG	Whiting	whg-iris	27.7.A	TRUE	b
WSH	Great White shark		27.7-9, 31, 34, 37, 41, 51, 56	TRUE	d

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